A photograph of a water treatment facility with several large, cylindrical, stainless steel tanks. The tanks are arranged in a row and have various pipes and ladders attached to them. The sky is clear and blue. In the foreground, there is a white vertical tank with a funnel-shaped bottom. The text is overlaid on the image.

City of Grand Rapids, Michigan

Water/Sewer Rate Study 2020

Final

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: January 1, 2021

TO: Mark Washington, City Manager
Members of the Utility Advisory Board

FROM: Jenessa B. Carter
Acting Utility Financial Officer

SUBJECT: 2020 WATER/SEWER RATE STUDY – FINAL REPORT

The final study, setting water and sewer rates effective January 1, 2021, for Grand Rapids and the retail and wholesale partner communities it serves, is submitted herein for reference and/or retention. A table of contents immediately precedes the report's three sections and lists the respective tasks performed in reviewing the operating and financial performance of the Water Supply System and Sewage Disposal System. The annual study consists of a comprehensive review of the operating and capital costs by community, in conjunction with customer base variation and usage, and calculates recommended commodity and service rates based upon adherence to: (a) the uniform rate-setting methodology established in 1976-77 for customer communities not party to the uniform water and sewer service agreements; and (b) rate methodology changes contractually agreed in the uniform water and sewer service agreements for Utility Advisory Board (UAB) member customer communities. The methodology yields consistent performance in providing for the long-term needs of the water and sewage systems and assuring adequate debt service coverage pursuant to the systems' master bond ordinance covenants.

The City's 2020 review marked the 44th annual water/sewer rate study report and resulted in utility rate increases as follows:

1. Water Supply System revenue requirements increased \$280,352, or 0.62% more than revenue generated by existing rates and charges.
2. Sewage Disposal System revenue requirements increased \$4,495,051 or 7.92% more than revenue generated by existing rates and charges, which includes a \$45M preload of assets related to the Biodigestion Project.

The final rate study continues to provide funding from the penalty fees and non-operating income to support both of the City's circuit breaker programs. A contribution of \$167,132 will support the Individual Circuit Breaker program aimed to help eligible retail customers pay their water/sewer bills. Sufficient funding was also available to apply the City and Customer Community Circuit Breaker relief to the water and sewer utility rates in the City of Walker,

City of Kentwood, Wright Township, Cascade Township and Grand Rapids Township to limit each retail service area's revenue requirement change to a level in line with the overall systems' average change.

Five schedules supplement and immediately follow this memo. The first schedule summarizes the revenue requirement changes by customer community. The second and third schedules show water and sewer rate adjustment impacts to typical domestic and commercial customers with the system average quarterly consumption in each retail community. They also include a comparison of the approximate monthly charge for Wright Township's residential equivalent unit (REU) rate structure. The final two schedules show comparative water and sewer monthly service and commodity rate adjustments for the City's retail and wholesale customer communities.

Announcement of the proposed 2021 water and sewer rates to the UAB partners and other customer communities was made November 6, 2020. All partner communities participated in a thirty (30) day comment period following notification of the rates as provided in the water/sewer service agreements.

Pursuant to Section 2.33 and 2.94 of the City Code, on November 10, 2020, the preliminary rate study with explanatory materials were filed with the City Clerk, made available online at <https://www.grandrapidsmi.gov/Government/Departments/Water-System/Water-and-Sewer-Rate-Study>, and notice of availability of such information was published in the newspaper at least twenty (20) days prior to adoption of the resolution to provide for opportunities for public comment. The City Commission approved the final water and sewer rates by resolution on December 15, 2020.

Attachments as named

JBC: jbc

**CITY OF GRAND RAPIDS, MICHIGAN
2020 FINAL WATER/SEWER RATE STUDY
SUMMARY OF REVENUE REQUIREMENT CHANGES
FOR RATES EFFECTIVE JANUARY 1, 2021**

	<u>WATER (1)</u>		<u>SEWER (1)</u>		
	<u>AMOUNT</u>	<u>PERCENT</u>	<u>AMOUNT</u>	<u>PERCENT</u>	
RETAIL COMMUNITIES	GRAND RAPIDS	\$ (12,430)	-0.05%	\$ 2,607,909	6.75%
	WALKER	42,708	1.21%	345,907	7.06%
	NET OF CONTRIBUTION OF:			90,871	
	KENTWOOD	54,306	1.21%	515,546	11.62%
	CASCADE TWP	(167,913)	-4.51%	284,906	10.99%
	GRAND RAPIDS TWP	29,795	1.20%	216,496	8.14%
	TALLMADGE TWP	(25,517)	-14.05%	(17,120)	-3.66%
WRIGHT TWP	N/A	N/A	26,685	9.09%	
WHOLESALE COMMUNITIES	EAST GRAND RAPIDS	30,955	3.81%	215,954	21.76%
	ADA TWP	115,036	9.13%	129,273	9.42%
	OTTAWA COUNTY	213,412	10.78%	NA	NA
	GAINES TWP	N/A	N/A	37,343	16.70%
	CALEDONIA TWP	N/A	N/A	41,281	27.03%
<hr/>					
SYSTEM	\$ 280,352	0.62%	\$ 4,495,051	7.92%	
<hr/>					

(1) Change in revenue requirements based on revenues currently generated from rates, customer base and volumes reported in the preliminary rate study (Includes consideration for relief from CCCCB).

DISCLOSE RELIEF PROVIDED BY CITY & CUSTOMER COMMUNITY CIRCUIT BREAKER (CCCB)

	<u>WATER</u>		<u>SEWER</u>	
	<u>AMOUNT</u>	<u>PERCENT</u>	<u>AMOUNT</u>	<u>PERCENT</u>
SYSTEM REVENUE REQUIREMENT	\$ 45,501,943	0.62%	\$ 61,242,290	7.92%
ADD: CCCCB RELIEF	260,317	0.58%	349,611	0.62%
SYSTEM CHANGE- WITHOUT RELIEF	<u>\$ 45,762,260</u>	<u>1.20%</u>	<u>\$ 61,591,901</u>	<u>8.54%</u>

**CITY OF GRAND RAPIDS, MICHIGAN
2020 FINAL WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON DOMESTIC USERS
BY CUSTOMER COMMUNITY *
FOR RATES EFFECTIVE JANUARY 1, 2021**

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2020</u>	<u>2021</u>	<u>DOLLARS</u>	<u>PERCENT</u>
GRAND RAPIDS				
WATER	\$ 87.24	\$ 86.86	\$ (0.38)	-0.44%
SEWER	122.20	128.90	6.70	5.48%
	<u>\$ 209.44</u>	<u>\$ 215.76</u>	<u>\$ 6.32</u>	3.02%
BASE RATIO	1.00	1.00		
WALKER				
WATER	\$ 86.68	\$ 87.38	\$ 0.70	0.81%
SEWER	138.99	148.24	9.25	6.66%
	<u>\$ 225.67</u>	<u>\$ 235.62</u>	<u>\$ 9.95</u>	4.41%
RATIO TO GR	1.08	1.09		
KENTWOOD				
WATER	\$ 89.18	\$ 89.67	\$ 0.49	0.55%
SEWER	76.44	84.17	7.73	10.11%
	<u>\$ 165.62</u>	<u>\$ 173.84</u>	<u>\$ 8.22</u>	4.96%
RATIO TO GR	0.79	0.81		
CASCADE TWP				
WATER	\$ 133.11	\$ 126.59	\$ (6.52)	-4.90%
SEWER	153.88	169.84	15.96	10.37%
	<u>\$ 286.99</u>	<u>\$ 296.43</u>	<u>\$ 9.44</u>	3.29%
RATIO TO GR	1.37	1.37		
GRAND RAPIDS TWP				
WATER	\$ 103.04	\$ 104.01	\$ 0.97	0.94%
SEWER	134.53	144.96	10.43	7.75%
	<u>\$ 237.57</u>	<u>\$ 248.97</u>	<u>\$ 11.40</u>	4.80%
RATIO TO GR	1.13	1.15		
TALLMADGE TWP				
WATER	\$ 90.98	\$ 77.36	\$ (13.62)	-14.97%
SEWER	256.82	247.07	(9.75)	-3.80%
	<u>\$ 347.80</u>	<u>\$ 324.43</u>	<u>\$ (23.37)</u>	-6.72%
RATIO TO GR	1.66	1.50		

* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE DOMESTIC CUSTOMER
 QUARTERLY CONSUMPTION OF: WATER- 26.00 UNITS OR 19,448 GALLONS
 SEWER - 19.00 UNITS OR 14,212 GALLONS
 NO. OF MONTHS: 3

REU (RESIDENTIAL EQUIVALENT UNIT) CUSTOMER COMMUNITY- APPROXIMATE QUARTERLY BILL

WRIGHT TWP-				
SEWER (No. of REU 1.00)	<u>\$ 173.76</u>	<u>\$ 189.54</u>	<u>\$ 15.78</u>	9.08%

**CITY OF GRAND RAPIDS, MICHIGAN
2020 FINAL WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON COMMERCIAL USERS
BY CUSTOMER COMMUNITY
FOR RATES EFFECTIVE JANUARY 1, 2021**

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2020</u>	<u>2021</u>	<u>DOLLARS</u>	<u>PERCENT</u>
GRAND RAPIDS				
WATER	\$ 465.60	\$ 469.12	\$ 3.52	0.76%
SEWER	796.17	904.32	108.15	13.58%
	<u>\$ 1,261.77</u>	<u>\$ 1,373.44</u>	<u>\$ 111.67</u>	8.85%
BASE RATIO	1.00	1.00		
WALKER				
WATER	\$ 420.73	\$ 426.14	\$ 5.41	1.29%
SEWER	671.67	720.30	48.63	7.24%
	<u>\$ 1,092.40</u>	<u>\$ 1,146.44</u>	<u>\$ 54.04</u>	4.95%
RATIO TO GR	0.87	0.83		
KENTWOOD				
WATER	\$ 404.78	\$ 409.83	\$ 5.05	1.25%
SEWER	575.25	642.51	67.26	11.69%
	<u>\$ 980.03</u>	<u>\$ 1,052.34</u>	<u>\$ 72.31</u>	7.38%
RATIO TO GR	0.78	0.77		
CASCADE TWP				
WATER	\$ 608.31	\$ 580.52	\$ (27.79)	-4.57%
SEWER	719.49	798.09	78.60	10.92%
	<u>\$ 1,327.80</u>	<u>\$ 1,378.61</u>	<u>\$ 50.81</u>	3.83%
RATIO TO GR	1.05	1.00		
GRAND RAPIDS TWP				
WATER	\$ 485.87	\$ 491.76	\$ 5.89	1.21%
SEWER	635.82	688.17	52.35	8.23%
	<u>\$ 1,121.69</u>	<u>\$ 1,179.93</u>	<u>\$ 58.24</u>	5.19%
RATIO TO GR	0.89	0.86		
TALLMADGE TWP				
WATER	\$ 619.64	\$ 530.63	\$ (89.01)	-14.36%
SEWER	1,919.01	1,848.48	(70.53)	-3.68%
	<u>\$ 2,538.65</u>	<u>\$ 2,379.11</u>	<u>\$ (159.54)</u>	-6.28%
RATIO TO GR	2.01	1.73		

* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE COMMERCIAL CUSTOMER
QUARTERLY CONSUMPTION OF : WATER- 203.00 UNITS OR 151,844 GALLONS
SEWER - 198.00 UNITS OR 148,104 GALLONS
NO. OF MONTHS: 3

REU (RESIDENTIAL EQUIVALENT UNIT) CUSTOMER COMMUNITY- APPROXIMATE QUARTERLY BILL

WRIGHT TWP				
SEWER (No. of REU 1.00)	<u>\$ 173.76</u>	<u>\$ 189.54</u>	<u>\$ 15.78</u>	9.08%

**CITY OF GRAND RAPIDS, MICHIGAN
2020 FINAL WATER/SEWER RATE STUDY
WATER & SEWER RATES FOR GRAND RAPIDS & RETAIL CUSTOMER COMMUNITIES
EFFECTIVE JANUARY 1, 2021**

WATER RATES

	<u>METER CODE</u>	<u>GRAND RAPIDS</u>	<u>WALKER</u>	<u>KENTWOOD</u>	<u>CASCADE</u>	<u>GR. RAPIDS TOWNSHIP</u>	<u>TALLMADGE TOWNSHIP</u>	<u>WRIGHT TOWNSHIP</u>
COMMODITY CHARGE (HCF)		\$ 2.06	\$ 1.78	\$ 1.65	\$ 2.32	\$ 2.01	\$ 2.56	NA
MONTHLY SERVICE CHARGE BY METER SIZE								
3/4" & Less	A	\$ 11.10	\$ 13.70	\$ 15.59	\$ 22.09	\$ 17.25	\$ 3.60	NA
1"	B	\$ 16.98	\$ 21.60	\$ 24.96	\$ 36.52	\$ 27.91	\$ 3.65	NA
1-1/4"	C	\$ 24.54	\$ 31.76	\$ 37.01	\$ 55.07	\$ 41.62	\$ 3.71	NA
1-1/2"	D	\$ 33.78	\$ 44.18	\$ 51.74	\$ 77.74	\$ 58.38	\$ 3.78	NA
2"	E	\$ 57.30	\$ 75.79	\$ 89.23	\$ 135.45	\$ 101.03	\$ 3.97	NA
3"	F	\$ 124.50	\$ 166.10	\$ 196.34	\$ 300.34	\$ 222.90	\$ 4.50	NA
4"	G	\$ 218.58	\$ 292.54	\$ 346.30	\$ 531.18	\$ 393.51	\$ 5.25	NA
6" & Over	H	\$ 487.38	\$ 653.78	\$ 774.74	\$ 1,190.74	\$ 880.98	\$ 7.38	NA

SEWER RATES

	<u>METER CODE</u>	<u>GRAND RAPIDS</u>	<u>WALKER</u>	<u>KENTWOOD</u>	<u>CASCADE</u>	<u>GR. RAPIDS TOWNSHIP</u>	<u>TALLMADGE TOWNSHIP</u>	<u>WRIGHT TOWNSHIP</u>
COMMODITY CHARGE (HCF)		\$ 4.16	\$ 2.83	\$ 3.05	\$ 3.07	\$ 2.67	\$ 8.63	NA
REU Charge (Monthly) *		NA	NA	NA	NA	NA	NA	\$ 63.18
MONTHLY SERVICE CHARGE BY METER SIZE								
3/4" & Less	A	\$ 16.62	\$ 31.49	\$ 8.74	\$ 37.17	\$ 31.41	\$ 27.70	NA
1"	B	\$ 26.88	\$ 53.32	\$ 12.87	\$ 63.41	\$ 53.17	\$ 46.58	NA
1-1/4"	C	\$ 40.07	\$ 81.38	\$ 18.18	\$ 97.15	\$ 81.15	\$ 70.85	NA
1-1/2"	D	\$ 56.19	\$ 115.67	\$ 24.67	\$ 138.39	\$ 115.35	\$ 100.51	NA
2"	E	\$ 97.23	\$ 202.97	\$ 41.19	\$ 243.36	\$ 202.40	\$ 176.02	NA
3"	F	\$ 214.47	\$ 452.39	\$ 88.39	\$ 543.27	\$ 451.11	\$ 391.75	NA
4"	G	\$ 378.61	\$ 801.58	\$ 154.47	\$ 963.14	\$ 799.30	\$ 693.78	NA
6" & Over	H	\$ 847.59	\$ 1,799.27	\$ 343.27	\$ 2,162.79	\$ 1,794.15	\$ 1,556.71	NA

* REU - Residential Equivalent Unit (Wright Township Only)

FIRE PROTECTION RATES- ALL GOVERNMENTAL UNITS

6"	H	\$ 20.32		10"	J	\$ 56.51
8"	I	\$ 36.07		12"	K	\$ 81.32

NOTE: Monthly defined as 1/12th of 365 days.

**CITY OF GRAND RAPIDS, MICHIGAN
2020 FINAL WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON WHOLESALE CUSTOMER COMMUNITIES
EFFECTIVE JANUARY 1, 2021**

	<u>2020</u>	<u>2021</u>	<u>PERCENTAGE CHANGE</u>
EAST GRAND RAPIDS			
WATER - SERVICE (MONTHLY)	\$17,849.00	\$15,299.00	-14.29%
- COMMODITY (100 CF)	\$1.07	\$1.18	10.28%
SEWER - SERVICE (MONTHLY)	\$2,213.00	\$1,918.00	-13.33%
- COMMODITY (MG)	\$2,068.00	\$2,538.00	22.73%
ADA TWP			
WATER - SERVICE	\$45,244.00	\$48,464.00	7.12%
- COMMODITY	\$1.22	\$1.35	10.66%
SEWER - SERVICE	\$47,747.00	\$41,740.00	-12.58%
- COMMODITY	\$2,721.00	\$3,407.00	25.21%
OTTAWA COUNTY			
WATER - SERVICE	\$0.00	\$416.00	N/A
- COMMODITY	\$1.14	\$1.26	10.53%
GAINES TWP			
SEWER - SERVICE	\$1,631.00	\$1,566.00	-3.99%
- COMMODITY	\$1,670.00	\$1,982.00	18.68%
CALEDONIA TWP			
SEWER - SERVICE	\$739.00	\$708.00	-4.19%
- COMMODITY	\$5,115.00	\$6,596.00	28.95%

NOTE: Monthly defined as 1/12th of 365 days.

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ANNUAL RATE REVIEW**

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**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
SYSTEM ADDITIONS AND IMPROVEMENTS
FOR THE YEAR ENDED JUNE 30, 2020
TASKS NO. 1, 2, & 3**

COMMUNITY	LOCAL		INTERMEDIATE		PRIMARY		TOTALS	
	FEET	MILES	FEET	MILES	FEET	MILES	FEET	MILES
Grand Rapids								
Construction	16,052	3.04	5,488	1.04	395	0.07	21,935	4.15
Abandonment	(18,247)	(3.46)	(3,364)	(0.64)	(324)	(0.06)	(21,935)	(4.16)
CSO Construction	0	0.00	0	0.00	0	0.00	0	0.00
CSO Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	(2,195)	(0.42)	2,124	0.40	71	0.01	0	(0.01)
Kentwood								
Construction	0	0.00	0	0.00	0	0.00	0	0.00
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	0	0.00	0	0.00	0	0.00	0	0.00
Cascade Twp.								
Construction	0	0.00	0	0.00	0	0.00	0	0.00
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	0	0.00	0	0.00	0	0.00	0	0.00
G.R. Twp.								
Construction	0	0.00	0	0.00	0	0.00	0	0.00
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	0	0.00	0	0.00	0	0.00	0	0.00
Tallmadge Twp.								
Construction	0	0.00	0	0.00	0	0.00	0	0.00
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	0	0.00	0	0.00	0	0.00	0	0.00
Walker								
Construction	52	0.01	6,467	1.22	0	0.00	6,519	1.23
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	52	0.01	6,467	1.22	0	0.00	6,519	1.23
TOTAL	(2,143)	(0.41)	8,591	1.62	71	0.01	6,519	1.22

	CONTRIBUTIONS		
	COMM	OTHER	TOTAL
Integrated	\$ -	\$ -	\$ -
Grand Rapids	559,344	-	559,344
Walker	1,255,555	-	1,255,555
Kentwood	609,461	-	609,461
Cascade Twp.	253,492	-	253,492
Grand Rapids Twp.	87,000	-	87,000
Tallmadge Twp.	288,111	-	288,111
TOTAL	\$ 3,052,963	\$ -	\$ 3,052,963

CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 OPERATING EXPENSE ALLOCATION BY COST CENTER - TASK #4, PART 1
 FISCAL YEAR ENDED JUNE 30, 2020

	ACTIVITY	EXPENSE BY ACTIVITY	PUMPING STATIONS			WATERMAINS			RETAIL CUSTOMER METERING	ENGIN. SERVICES	ADMIN. EXPENSE
			FILTRATION PLANT	PRIMARY	INTERM.	PRIMARY TRANSPORT	INTERMED. TRANSPORT	LOCAL DISTRIBUTION			
253 (4010) 5910	TREASURER-CUSTOMER SERVICE	\$ 847,824						\$ 847,824			
536 (2110) 2700 5910	WATER-CUSTOMER SERVICE *	2,723,539						2,723,539			
536 (3010:70) 5910	ENGINEERING	1,260,864							1,260,864		
536 (4510:80) 5910	COLDBROOK DISTRIBUTION	2,476,336		593,822	1,882,514						
536 (6010 / 6370) 5910	FIELD OPERATIONS	6,574,836				336,237	1,737,992				
536 (6500:90) 5910	FILTRATION	8,080,908	8,080,908								
536 (1000:10 / 8000) 5910	SUBTOTAL OPERATING EXPENSE ADMINISTRATION	21,964,307 3,238,471	8,080,908	1,882,514		336,237	1,737,992	3,571,363	1,260,864	-	
	TOTAL	\$ 25,202,778	\$ 8,080,908	\$ 1,882,514	\$ 336,237	\$ 1,737,992	\$ 4,500,607	\$ 3,571,363	\$ 1,260,864	\$ 3,238,471	

* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

METHOD OF DISTRIBUTION

253 (4010) 5910	TREASURER-CUSTOMER SERVICE	100.000%						100.000%		
536 (2110) 2700 5910	WATER-CUSTOMER SERVICE	100.000%						100.000%		
536 (3010:70) 5910	ENGINEERING	100.000%							100.000%	
536 (4510:80) 5910	COLDBROOK DISTRIBUTION	100.000%		23.980%	76.020%					
536 (6010 / 6370) 5910	FIELD OPERATIONS	100.000%				5.114%	26.434%	68.452%		
536 (6500:90) 5910	TOTAL MILES OF MAIN	1,187.89				60.75	314.01	813.13		
536 (1000:10 / 8000) 5910	FILTRATION	100.000%	100.000%							
	ADMINISTRATION	100.000%								100.000%

CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 OPERATING EXPENSE ALLOCATION BY GOVERNMENTAL UNIT - TASK #4, PART 2
 FISCAL YEAR ENDED JUNE 30, 2020

COST CENTER	EXPENSE BY COST CENTER	INTEGRATED SYSTEM	RETAIL						WHOLESALE				
			CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA	ADA TOWNSHIP		
FILTRATION PLANT	\$ 8,080,908	\$ 8,080,908											
PUMPING STATIONS:													
A. PRIMARY TRANSPORT	593,822	593,822											
B. INTERMEDIATE TRANSPORT	1,882,514		1,548,063	19,033	315,418								
WATERMAINS:													
A. PRIMARY TRANSPORT	336,237		278,622	17,821	25,349	9,297	5,148						
B. INTERMEDIATE TRANSPORT	1,737,992		652,999	374,485	310,336	233,464	142,081	24,627					
C. LOCAL DISTRIBUTION	4,500,607		3,287,648	355,188	309,867	249,739	281,333	16,832					
RETAIL CUSTOMER METERING	3,571,363		2,650,844	294,173	245,853	170,783	196,246	13,464					
SUBTOTAL OPERATING EXPENSE	20,703,443	8,674,730	8,418,176	1,060,700	1,206,823	663,283	624,808	54,923					
ENGINEERING SERVICES	1,260,864	528,302	512,680	64,594	73,496	40,398	38,053	3,341					
ADMINISTRATIVE EXPENSE	3,238,471	1,356,919	1,316,795	165,907	188,770	103,761	97,737	8,582					
TOTAL	\$ 25,202,778	\$ 10,559,952	\$ 10,247,651	\$ 1,291,201	\$ 1,469,089	\$ 807,442	\$ 760,598	\$ 66,846	\$ -	\$ -	\$ -	\$ -	\$ -

W-3

METHOD OF DISTRIBUTION

FILTRATION PLANTS	100.00%	100.00%											
PUMPING STATIONS													
A. PRIMARY TRANSPORT	100.00%	100.00%											
B. INTERMEDIATE TRANSPORT	100.00%		82.234%	1.011%	16.755%								
MEMO													
WATERMAINS													
TOTAL MILES:													
A. PRIMARY TRANSPORT	100.000%		82.865%	5.300%	7.539%	2.765%	1.531%						
MILES			50.34	3.22	4.58	1.68	0.93						
B. INTERMEDIATE TRANSPORT	100.000%		37.572%	21.547%	17.856%	13.433%	8.175%	1.417%					
MILES			117.98	67.66	56.07	42.18	25.67	4.45					
C. LOCAL DISTRIBUTION	100.000%		73.049%	7.892%	6.885%	5.549%	6.251%	0.374%					
MILES			593.99	64.17	55.98	45.12	50.83	3.04					
RETAIL CUSTOMER METERING (1)	100.000%		74.225%	8.237%	6.884%	4.782%	5.495%	0.377%					
NUMBER OF METERS			59,645.00	6,619.00	5,532.00	3,843.00	4,416.00	303.00					
ENGINEERING SERVICES (2)	100.000%		40.661%	5.123%	5.829%	3.204%	3.018%	0.265%					
ADMINISTRATIVE EXPENSE (3)	100.000%		40.661%	5.123%	5.829%	3.204%	3.018%	0.265%					

NOTES:

- (1) ALLOCATION BASED ON NUMBER OF METERS.
- (2) ALLOCATION BASED ON DIRECT OPERATING EXPENSE.
- (3) ALLOCATION BASED ON DIRECT OPERATING EXPENSE, ADJUSTED FOR ANY COST ASSIGNABLE EXCLUSIVELY TO GR OR RETAIL COMMUNITIES, IF APPLICABLE.

CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED OPERATING EXPENSE ALLOCATION BY COST CENTER - TASK #5, PART 1
FISCAL YEAR ENDED JUNE 30, 2020

	ACTIVITY	ADJUSTED EXPENSE BY ACTIVITY	PUMPING STATIONS		WATERMAINS		RETAIL CUSTOMER METERING	ENGIN. SERVICES	ADMIN. EXPENSE
			FILTRATION PLANT	PRIMARY	INTERM.	PRIMARY TRANSPORT			
253 (4010) 5910	TREASURER-CUSTOMER SERVICE	\$ 837,568					\$ 837,568		
536 (2110) 2700) 5910	WATER-CUSTOMER SERVICE *	2,462,290					2,462,290		
536 (3010:70) 5910	ENGINEERING	1,282,788						1,282,788	
536 (4510:80) 5910	COLDBROOK DISTRIBUTION	2,483,939		595,646	1,888,293				
536 (6010) 6370) 5910	FIELD OPERATIONS	6,632,521							
536 (6500:90) 5910	FILTRATION	8,081,321	8,081,321						
536 (1000:10) 8000) 5910	SUBTOTAL OPERATING EXPENSE ADMINISTRATION	21,780,427	8,081,321	595,646	1,888,293			1,282,788	-
	TOTAL	\$ 25,768,766	\$ 8,081,321	\$ 595,646	\$ 1,888,293	\$ 339,187	\$ 1,753,241	\$ 3,299,858	\$ 3,988,339

* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

METHOD OF DISTRIBUTION

253 (4010) 5910	TREASURER-CUSTOMER SERVICE	100.000%						100.000%	
536 (2110) 2700) 5910	WATER-CUSTOMER SERVICE	100.000%						100.000%	
536 (3010:70) 5910	ENGINEERING	100.000%							100.000%
536 (4510:80) 5910	COLDBROOK DISTRIBUTION	100.000%		23.980%	76.020%				
536 (6010) 6370) 5910	FIELD OPERATIONS	100.000%					5.114%	26.434%	68.452%
536 (6500:90) 8000) 5910	TOTAL MILES OF MAIN	1,187.89					60.75	314.01	813.13
	FILTRATION	100.000%	100.000%						
	ADMINISTRATION	100.000%							100.000%

CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 ADJUSTED OPERATING EXPENSE ALLOCATION BY GOVERNMENTAL UNIT - TASK #5, PART 2
 FISCAL YEAR ENDED JUNE 30, 2020

COST CENTER	ADJUSTED EXPENSE BY COST CENTER	INTEGRATED SYSTEM	RETAIL						WHOLESALE					
			CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA	ADA TOWNSHIP			
FILTRATION PLANT	\$ 8,081,321	\$ 8,081,321												
PUMPING STATIONS:														
A. PRIMARY TRANSPORT	595,646	595,646												
B. INTERMEDIATE TRANSPORT	1,888,293		1,552,814	19,092	316,387									
WATERMAINS:														
A. PRIMARY TRANSPORT	339,187		281,067	17,977	25,571	9,379	5,193							
B. INTERMEDIATE TRANSPORT	1,753,241		658,728	377,771	313,059	235,513	143,327	24,843						
C. LOCAL DISTRIBUTION	4,540,093		3,316,493	358,304	312,585	251,930	283,801	16,980						
RETAIL CUSTOMER METERING	3,299,858		2,449,321	271,809	227,162	157,799	181,327	12,440						
SUBTOTAL OPERATING EXPENSE	20,497,639	8,676,967	8,258,423	1,044,953	1,194,764	654,621	613,648	54,263						
ENGINEERING SERVICES	1,282,788	543,004	516,835	65,397	74,774	40,972	38,407	3,399						
ADMINISTRATIVE EXPENSE	3,988,339	1,339,588	2,098,739	161,333	184,466	101,078	94,749	8,386						
TOTAL	\$ 25,768,766	\$ 10,559,559	\$ 10,873,997	\$ 1,271,683	\$ 1,454,004	\$ 796,671	\$ 746,804	\$ 66,048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

W-5

METHOD OF DISTRIBUTION

FILTRATION PLANTS	100.00%													
PUMPING STATIONS														
A. PRIMARY TRANSPORT	100.00%													
B. INTERMEDIATE TRANSPORT	100.00%		82.234%	1.011%	16.755%									
MEMO														
WATERMAINS														
TOTAL MILES:		1,187.89												
A. PRIMARY TRANSPORT	100.000%		82.865%	5.300%	7.539%	2.765%	1.531%							
MILES		60.75	50.34	3.22	4.58	1.68	0.93							
B. INTERMEDIATE TRANSPORT	100.000%		37.572%	21.547%	17.856%	13.433%	8.175%	1.417%						
MILES		314.01	117.98	67.66	56.07	42.18	25.67	4.45						
C. LOCAL DISTRIBUTION	100.000%		73.049%	7.892%	6.885%	5.549%	6.251%	0.374%						
MILES		813.13	593.99	64.17	55.98	45.12	50.83	3.04						
RETAIL CUSTOMER METERING (1)	100.000%		74.225%	8.237%	6.884%	4.782%	5.495%	0.377%						
NUMBER OF METERS		80,358.00	59,645.00	6,619.00	5,532.00	3,843.00	4,416.00	303.00						
ENGINEERING SERVICES (2)	100.000%		40.290%	5.098%	5.829%	3.194%	2.994%	0.265%						
ADMINISTRATIVE EXPENSE (3)	100.000%		52.622%	4.045%	4.625%	2.534%	2.376%	0.210%						

NOTES:

- (1) ALLOCATION BASED ON NUMBER OF METERS.
- (2) ALLOCATION BASED ON DIRECT OPERATING EXPENSE.
- (3) ALLOCATION BASED ON DIRECT OPERATING EXPENSE, ADJUSTED FOR ANY COST ASSIGNABLE EXCLUSIVELY TO GR OR RETAIL COMMUNITIES, IF APPLICABLE.

CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2020
RATE STUDY- TASKS NO. 4 & 5 SUPPORT

ORGANIZATIONAL UNIT: ADMINISTRATION

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 480,832.50	\$ 19,401.59	\$ 500,234.09
7040	TEMPORARY EMPLOYEES	9,487.74	382.83	9,870.57
7055	TIME & ONE-HALF	1,230.01	49.63	1,279.64
7105	EMPLOYERS SOCIAL SECURITY	34,858.26	1,406.53	36,264.79
7110	HOSPITALIZATION INSURANCE	86,401.12	(10,532.30)	75,868.82
7115	RETIREE HEALTH CARE	38,580.41	(10,671.34)	27,909.07
7120	RETIREMENT FUND CONTRIBUTION	102,205.42	7,552.98	109,758.40
7135	UNEMPLOYMENT COMPENSATION	1,014.47	-	1,014.47
7175	FOOD/CLEAN/CAR ALLOW	2,490.00	-	2,490.00
	TOTAL PERSONAL SERVICES	<u>757,099.93</u>	<u>7,589.92</u>	<u>764,689.85</u>
7520	SUPPLIES	3,591.15	73,710.00	77,301.15
7800	INVENTORY - COST OF GOODS SOLD	9,077.56	-	9,077.56
	TOTAL SUPPLIES	<u>12,668.71</u>	<u>73,710.00</u>	<u>86,378.71</u>
7910	SUBSCRIPTIONS AND PUBLICATIONS	797.50	-	797.50
8010	CONTRACTUAL SERVICES	431,953.33	750,000.00	1,181,953.33
8011	CONTRACT EMPLOYEES - TEMP SERVICES	26,880.64	-	26,880.64
8030	ADMINISTRATIVE SERVICES (ICB)	149,933.90	(149,773.58)	160.32
8240	FEES	29,531.31	-	29,531.31
8400	INSURANCE PREMIUMS	298,653.00	-	298,653.00
8450	GENERAL LIABILITY INSURANCE/CLAIMS	272,638.00	4,068.00	276,706.00
8500	TELEPHONE	3,349.13	-	3,349.13
9000	PRINTING & PUBLISHING	5,988.02	-	5,988.02
9100	PROFESSIONAL DEVELOPMENT	17,867.22	-	17,867.22
9110	OTHER TRAVEL & TRAINING	21,997.09	-	21,997.09
9130	LOCAL BUSINESS EXPENSE	472.61	-	472.61
9131	FOOD-BEVERAGE	822.59	-	822.59
9150	MEMBERSHIPS	49,668.50	-	49,668.50
9180	WATER	3,793.64	-	3,793.64
9190	REFUSE COLLECTION CHARGES	6,915.72	-	6,915.72
9200	ELECTRICITY	47,667.84	-	47,667.84
9210	NATURAL GAS	16,434.93	-	16,434.93
9340	MAINTENANCE SERVICE	92,118.05	-	92,118.05
9400	LAND RENTAL OR LEASE	4,445.88	-	4,445.88
9430	BUILDINGS RENTALS OR LEASE	6,062.04	-	6,062.04
9460	ENGINEERING SERVICES	18,396.19	-	18,396.19
9470	VEHICLE USAGE/CAR MILEAGE	4,660.73	-	4,660.73
9480	COMPUTER SERVICES	28,392.00	7,178.00	35,570.00
	TOTAL OTHER SERVICES & CHARGES	<u>1,539,439.86</u>	<u>611,472.42</u>	<u>2,150,912.28</u>
9760	EQUIPMENT	44,827.20	-	44,827.20
9800	FURNITURE	2,505.33	-	2,505.33
9880	CONSTRUCTION IN PROGRESS	54,539.25	-	54,539.25
	TOTAL CAPITAL	<u>101,871.78</u>	<u>-</u>	<u>101,871.78</u>
9510	A-87 COST ALLOCATION	827,391.00	57,095.00	884,486.00
	TOTAL TRANSFERS/FEES	<u>827,391.00</u>	<u>57,095.00</u>	<u>884,486.00</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 3,238,471.28</u>	<u>\$ 749,867.34</u>	<u>\$ 3,988,338.62</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2020
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: CUSTOMER SERVICES

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 1,430,999.62	\$ 57,740.83	\$ 1,488,740.45
7025	ACT.ASSIGNMENT	5,346.77	215.74	5,562.51
7040	TEMPORARY EMPLOYEES	487.69	19.68	507.37
7050	REGULAR HOURLY RATE	259.64	10.48	270.12
7055	TIME & ONE-HALF	97,028.32	3,915.09	100,943.41
7105	EMPLOYERS SOCIAL SECURITY	107,450.16	4,335.61	111,785.77
7110	HOSPITALIZATION INSURANCE	392,948.33	(47,900.40)	345,047.93
7115	RETIREE HEALTH CARE	119,581.04	(33,076.12)	86,504.92
7120	RETIREMENT FUND CONTRIBUTION	317,372.14	23,453.80	340,825.94
7135	UNEMPLOYMENT COMPENSATION	1,993.93	-	1,993.93
7165	SHIFT DIFFERENTIAL	1,743.16	-	1,743.16
7175	FOOD/CLEAN/CAR ALLOW	750.00	-	750.00
	TOTAL PERSONAL SERVICES	<u>2,475,960.80</u>	<u>8,714.71</u>	<u>2,484,675.51</u>
7520	SUPPLIES	1,042,560.08	-	1,042,560.08
7670	CLOTHING/CLEANING ALLOWANCE	7,293.04	-	7,293.04
8510	POSTAGE	10,087.62	-	10,087.62
	TOTAL SUPPLIES	<u>1,059,940.74</u>	<u>-</u>	<u>1,059,940.74</u>
8010	CONTRACTUAL SERVICES	844,920.67	80,000.00	924,920.67
8011	CONTRACT EMPLOYEES - TEMP SERVICES	71,414.24	-	71,414.24
8500	TELEPHONE	14,981.32	-	14,981.32
9100	PROFESSIONAL DEVELOPMENT	3,922.40	-	3,922.40
9131	FOOD-BEVERAGE	136.00	-	136.00
9340	MAINTENANCE SERVICE	2,062.35	-	2,062.35
9410	EQUIPMENT RENTALS OR LEASE	5,083.84	-	5,083.84
9440	FLEET MANAGEMENT EQUIPMENT	124,111.80	-	124,111.80
9450	311 CALL CENTER SERVICES	572,720.00	-	572,720.00
9470	VEHICLE RENTAL/CAR MILEAGE	12,445.49	-	12,445.49
9480	COMPUTER SERVICES	132,648.00	33,521.00	166,169.00
9480	COMPUTER SERVICES (CIS-DEPR & ROI)	-	31,310.00	31,310.00
	TOTAL OTHER SERVICES & CHARGES	<u>1,784,446.11</u>	<u>144,831.00</u>	<u>1,929,277.11</u>
9760	EQUIPMENT	21,446.51	-	21,446.51
9800	FURNITURE	122.72	-	122.72
9840	SOFTWARE	1,282.36	-	1,282.36
	TOTAL CAPITAL	<u>22,851.59</u>	<u>-</u>	<u>22,851.59</u>
9510	A-87 COST ALLOCATION	39,826.00	34,597.00	74,423.00
	TOTAL TRANSFERS/FEES	<u>39,826.00</u>	<u>34,597.00</u>	<u>74,423.00</u>
	ORGANIZATIONAL UNIT TOTAL (GROSS)	\$ 5,383,025.24	\$ 188,142.71	\$ 5,571,167.95
	LESS: SDSF CONTRIBUTION *	(2,659,486.00)	(449,391.68)	(3,108,877.68)
	ORGANIZATIONAL UNIT TOTAL (NET)	<u>\$ 2,723,539.24</u>	<u>\$ (261,248.97)</u>	<u>\$ 2,462,290.27</u>

* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2020
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: ENGINEERING

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 662,134.94	\$ 26,717.14	\$ 688,852.08
7040	TEMPORARY EMPLOYEES	17,172.77	692.92	17,865.69
7055	TIME & ONE-HALF	1,283.67	51.80	1,335.47
7105	EMPLOYERS SOCIAL SECURITY	49,130.42	1,982.41	51,112.83
7110	HOSPITALIZATION INSURANCE	134,464.34	(16,391.20)	118,073.14
7115	RETIREE HEALTH CARE	53,169.63	(14,706.72)	38,462.91
7120	RETIREMENT FUND CONTRIBUTION	141,038.66	10,422.76	151,461.42
7135	UNEMPLOYMENT COMPENSATION	1,524.54	-	1,524.54
	TOTAL PERSONAL SERVICES	<u>1,059,918.97</u>	<u>8,769.11</u>	<u>1,068,688.08</u>
7520	SUPPLIES	730.20	-	730.20
7670	CLOTHING/CLEANING ALLOWANCE	404.56	-	404.56
	TOTAL SUPPLIES	<u>1,134.76</u>	<u>-</u>	<u>1,134.76</u>
8010	CONTRACTUAL SERVICES	100,292.62	-	100,292.62
8500	TELEPHONE	3,956.95	-	3,956.95
9340	MAINTENANCE SERVICE	718.53	-	718.53
9410	EQUIPMENT RENTALS OR LEASE	187.63	-	187.63
9440	FLEET MANAGEMENT EQUIPMENT	20,817.48	-	20,817.48
9470	VEHICLE RENTAL/CAR MILEAGE	859.48	-	859.48
9480	COMPUTER SERVICES	52,056.00	13,155.00	65,211.00
	TOTAL OTHER SERVICES & CHARGES	<u>178,888.69</u>	<u>13,155.00</u>	<u>192,043.69</u>
9760	EQUIPMENT	138.50	-	138.50
	TOTAL CAPITAL	<u>138.50</u>	<u>-</u>	<u>138.50</u>
9954	OPERATING TRANS-DEV CENTER	20,783.00	-	20,783.00
	TOTAL TRANSFERS/FEES	<u>20,783.00</u>	<u>-</u>	<u>20,783.00</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 1,260,863.92</u>	<u>\$ 21,924.11</u>	<u>\$ 1,282,788.03</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2020
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: DISTRIBUTION

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 484,754.88	\$ 19,559.86	\$ 504,314.74
7025	ACT.ASSIGNMENT	4,386.49	176.99	4,563.48
7055	TIME & ONE-HALF	23,466.68	946.88	24,413.56
7105	EMPLOYERS SOCIAL SECURITY	37,169.65	1,499.80	38,669.45
7110	HOSPITALIZATION INSURANCE	122,390.58	(14,919.41)	107,471.17
7115	RETIREE HEALTH CARE	40,374.58	(11,167.61)	29,206.97
7120	RETIREMENT FUND CONTRIBUTION	107,141.27	7,917.74	115,059.01
7135	UNEMPLOYMENT COMPENSATION	662.52	-	662.52
7165	SHIFT DIFFERENTIAL	174.97	-	174.97
	TOTAL PERSONAL SERVICES	<u>820,521.62</u>	<u>4,014.25</u>	<u>824,535.87</u>
7520	SUPPLIES	43,997.65	-	43,997.65
7670	CLOTHING/CLEANING ALLOWANCE	230.90	-	230.90
	TOTAL SUPPLIES	<u>44,228.55</u>	<u>-</u>	<u>44,228.55</u>
8010	CONTRACTUAL SERVICES	277,092.70	-	277,092.70
8500	TELEPHONE	4,022.73	-	4,022.73
9180	WATER	10,208.30	-	10,208.30
9190	REFUSE COLLECTION CHARGES	(1,200.00)	-	(1,200.00)
9200	ELECTRICITY	1,125,277.77	-	1,125,277.77
9210	NATURAL GAS	49,359.03	-	49,359.03
9340	MAINTENANCE SERVICE	50,110.55	-	50,110.55
9410	EQUIPMENT RENTALS OR LEASE	3,288.17	-	3,288.17
9440	FLEET MANAGEMENT EQUIPMENT	57,495.78	-	57,495.78
9480	COMPUTER SERVICES	14,196.00	3,589.00	17,785.00
	TOTAL OTHER SERVICES & CHARGES	<u>1,589,851.03</u>	<u>3,589.00</u>	<u>1,593,440.03</u>
9760	EQUIPMENT	21,734.36	-	21,734.36
	TOTAL CAPITAL	<u>21,734.36</u>	<u>-</u>	<u>21,734.36</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 2,476,335.56</u>	<u>\$ 7,603.25</u>	<u>\$ 2,483,938.81</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2020
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: FIELD OPERATIONS

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 1,765,010.20	\$ 71,218.16	\$ 1,836,228.36
7025	ACT.ASSIGNMENT	1,290.27	52.06	1,342.33
7040	TEMPORARY EMPLOYEES	6,266.48	252.85	6,519.33
7050	REGULAR HOURLY RATE	503.31	20.31	523.62
7055	TIME & ONE-HALF	214,570.50	8,657.92	223,228.42
7105	EMPLOYERS SOCIAL SECURITY	141,809.58	5,722.02	147,531.60
7110	HOSPITALIZATION INSURANCE	437,478.59	(53,328.64)	384,149.95
7115	RETIREE HEALTH CARE	147,639.08	(40,836.97)	106,802.11
7120	RETIREMENT FUND CONTRIBUTION	390,877.07	28,885.82	419,762.89
7135	UNEMPLOYMENT COMPENSATION	2,655.99	-	2,655.99
7165	SHIFT DIFFERENTIAL	1,755.64	-	1,755.64
7175	FOOD/CLEAN/CAR ALLOW	450.00	-	450.00
	TOTAL PERSONAL SERVICES	<u>3,110,306.71</u>	<u>20,643.53</u>	<u>3,130,950.24</u>
7520	SUPPLIES	545,703.22	-	545,703.22
7670	CLOTHING/CLEANING ALLOWANCE	9,595.06	-	9,595.06
	TOTAL SUPPLIES	<u>555,298.28</u>	<u>-</u>	<u>555,298.28</u>
8010	CONTRACTUAL SERVICES	1,632,589.82	-	1,632,589.82
8011	CONTRACT EMPLOYEES - TEMP SERVICES	74,565.70	-	74,565.70
8500	TELEPHONE	28,015.87	-	28,015.87
9210	NATURAL GAS	920.39	-	920.39
9340	MAINTENANCE SERVICE	15,442.66	-	15,442.66
9410	EQUIPMENT RENTALS OR LEASE	31,508.02	-	31,508.02
9440	FLEET MANAGEMENT EQUIPMENT	913,227.32	-	913,227.32
9470	VEHICLE USAGE/CAR MILEAGE	827.56	-	827.56
9480	COMPUTER SERVICES	146,556.00	37,042.00	183,598.00
	TOTAL OTHER SERVICES & CHARGES	<u>2,843,653.34</u>	<u>37,042.00</u>	<u>2,880,695.34</u>
9760	EQUIPMENT	58,482.21	-	58,482.21
9800	FURNITURE	5,813.01	-	5,813.01
9840	SOFTWARE	1,282.36	-	1,282.36
	TOTAL CAPITAL	<u>65,577.58</u>	<u>-</u>	<u>65,577.58</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 6,574,835.91</u>	<u>\$ 57,685.53</u>	<u>\$ 6,632,521.44</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2020
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: LAKE MI. FILTRATION

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 2,038,364.20	\$ 82,248.00	\$ 2,120,612.20
7025	ACT.ASSIGNMENT	1,276.15	51.49	1,327.64
7050	REGULAR HOURLY RATE	3,755.32	151.53	3,906.85
7055	TIME & ONE-HALF	99,498.89	4,014.78	103,513.67
7105	EMPLOYERS SOCIAL SECURITY	152,439.73	6,150.94	158,590.67
7110	HOSPITALIZATION INSURANCE	480,484.94	(58,571.11)	421,913.83
7115	RETIREE HEALTH CARE	170,325.74	(47,112.10)	123,213.64
7120	RETIREMENT FUND CONTRIBUTION	451,826.60	33,389.99	485,216.59
7135	UNEMPLOYMENT COMPENSATION	2,809.44	-	2,809.44
7165	SHIFT DIFFERENTIAL	10,952.46	-	10,952.46
	TOTAL PERSONAL SERVICES	<u>3,411,733.47</u>	<u>20,323.52</u>	<u>3,432,056.99</u>
7520	SUPPLIES	252,995.31	-	252,995.31
7530	PROCESS CHEMICALS	871,102.86	-	871,102.86
7670	CLOTHING/CLEANING ALLOWANCE	4,231.51	-	4,231.51
7800	INVENTORY - COST OF GOODS SOLD	(9,513.65)	-	(9,513.65)
8510	POSTAGE	749.39	-	749.39
	TOTAL SUPPLIES	<u>1,119,565.42</u>	<u>-</u>	<u>1,119,565.42</u>
7910	SUBSCRIPTIONS AND PUBLICATIONS	1,267.75	-	1,267.75
8010	CONTRACTUAL SERVICES	263,752.22	-	263,752.22
8011	CONTRACT EMPLOYEES - TEMP SERVICES	126,590.15	-	126,590.15
8015	CONTRACT SERV-TRAINING	1,440.00	-	1,440.00
8240	FEES	3,934.53	-	3,934.53
8500	TELEPHONE	22,147.33	-	22,147.33
9100	PROFESSIONAL DEVELOPMENT	170.70	-	170.70
9110	OTHER TRAVEL & TRAINING	105.56	-	105.56
9190	REFUSE COLLECTION CHARGES	3,641.97	-	3,641.97
9200	ELECTRICITY	1,654,862.30	(58,174.00)	1,596,688.30
9210	NATURAL GAS	103,977.20	-	103,977.20
9310	EQUIPMENT REPAIRS	149.55	-	149.55
9340	MAINTENANCE SERVICE	540,374.68	-	540,374.68
9410	EQUIPMENT RENTALS OR LEASE	8,197.85	-	8,197.85
9440	FLEET MANAGEMENT EQUIPMENT	54,585.12	-	54,585.12
9470	VEHICLE USAGE/CAR MILEAGE	623.05	-	623.05
9480	COMPUTER SERVICES	151,440.00	38,263.00	189,703.00
	TOTAL OTHER SERVICES & CHARGES	<u>2,937,259.96</u>	<u>(19,911.00)</u>	<u>2,917,348.96</u>
9760	EQUIPMENT	611,267.47	-	611,267.47
9840	SOFTWARE	1,082.03	-	1,082.03
	TOTAL CAPITAL	<u>612,349.50</u>	<u>-</u>	<u>612,349.50</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 8,080,908.35</u>	<u>\$ 412.52</u>	<u>\$ 8,081,320.87</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2020
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: TREASURER - CUSTOMER SERV'S

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
NO.	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 64,887.68	\$ 2,618.22	\$ 67,505.90
7055	TIME & ONE-HALF	69.79	2.82	72.61
7105	EMPLOYERS SOCIAL SECURITY	4,444.37	179.33	4,623.70
7110	HOSPITALIZATION INSURANCE	15,546.24	(1,895.09)	13,651.15
7115	RETIREE HEALTH CARE	5,377.69	(1,487.47)	3,890.22
7120	RETIREMENT FUND CONTRIBUTION	14,232.32	1,051.77	15,284.09
7135	UNEMPLOYMENT COMPENSATION	87.45	-	87.45
	TOTAL PERSONAL SERVICES	<u>104,645.54</u>	<u>469.58</u>	<u>105,115.12</u>
7520	SUPPLIES	2,438.35	-	2,438.35
	TOTAL SUPPLIES	<u>2,438.35</u>	<u>-</u>	<u>2,438.35</u>
8010	CONTRACTUAL SERVICES	219.97	-	219.97
8011	CONTRACT EMPLOYEES - TEMP SERVICES	9,966.13	-	9,966.13
8240	FEES	671,531.88	-	671,531.88
8450	GENERAL LIABILITY INSURANCE/CLAIMS	2,354.00	(162.00)	2,192.00
8500	TELEPHONE	35.25	-	35.25
9430	BUILDINGS RENTALS OR LEASE	9,467.04	-	9,467.04
9470	VEHICLE USAGE/CAR MILEAGE	17,382.00	-	17,382.00
9480	COMPUTER SERVICES	29,784.00	(10,564.00)	19,220.00
	TOTAL OTHER SERVICES & CHARGES	<u>740,740.27</u>	<u>(10,726.00)</u>	<u>730,014.27</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 847,824.16</u>	<u>\$ (10,256.42)</u>	<u>\$ 837,567.74</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2020
RATE STUDY- TASKS NO. 4 & 5**

ORGANIZATIONAL SUMMARY

OBJ	DESCRIPTION	OPERATING EXPENSES	ADJUSTED COST FACTORS	ADJUSTED CURRENT ANNUAL CURRENT
7020	PERMANENT EMPLOYEES	\$ 6,926,984.02	\$ 279,503.80	\$ 7,206,487.82
7025	ACT.ASSIGNMENT	12,299.68	496.28	12,795.96
7040	TEMPORARY EMPLOYEES	33,414.68	1,348.28	34,762.96
7050	REGULAR HOURLY RATE	4,518.27	182.32	4,700.59
7055	TIME & ONE-HALF	437,147.86	17,638.92	454,786.78
7105	EMPLOYERS SOCIAL SECURITY	527,302.17	21,276.64	548,578.81
7110	HOSPITALIZATION INSURANCE	1,669,714.14	(203,538.15)	1,466,175.99
7115	RETIREE HEALTH CARE	575,048.17	(159,058.33)	415,989.84
7120	RETIREMENT FUND CONTRIBUTION	1,524,693.48	112,674.86	1,637,368.34
7135	UNEMPLOYMENT COMPENSATION	10,748.34	-	10,748.34
7165	SHIFT DIFFERENTIAL	14,626.23	-	14,626.23
7175	FOOD/CLEAN/CAR ALLOW	3,690.00	-	3,690.00
	TOTAL PERSONAL SERVICES	<u>11,740,187.04</u>	<u>70,524.62</u>	<u>11,810,711.66</u>
7520	SUPPLIES	1,892,015.96	73,710.00	1,965,725.96
7530	PROCESS CHEMICALS	871,102.86	-	871,102.86
7670	CLOTHING/CLEANING ALLOWANCE	21,755.07	-	21,755.07
7800	INVENTORY - COST OF GOODS SOLD	(436.09)	-	(436.09)
8510	POSTAGE	10,837.01	-	10,837.01
	TOTAL SUPPLIES	<u>2,795,274.81</u>	<u>73,710.00</u>	<u>2,868,984.81</u>
7910	PUBLICATIONS AND SUBSCRIPTIONS	2,065.25	-	2,065.25
8010	CONTRACTUAL SERVICES	3,550,821.33	830,000.00	4,380,821.33
8011	CONTRACT EMPLOYEES - TEMP SERVICES	309,416.86	-	309,416.86
8015	CONTRACT SERV-TRAINING	1,440.00	-	1,440.00
8030	ADMINISTRATIVE SERVICES	149,933.90	(149,773.58)	160.32
8240	FEES	704,997.72	-	704,997.72
8400	INSURANCE PREMIUMS	298,653.00	-	298,653.00
8450	GENERAL LIABILITY INSURANCE / CLAIMS	274,992.00	3,906.00	278,898.00
8500	TELEPHONE	76,508.58	-	76,508.58
9000	PRINTING & PUBLISHING	5,988.02	-	5,988.02
9100	PROFESSIONAL DEVELOPMENT	21,960.32	-	21,960.32
9110	OTHER TRAVEL AND TRAINING	22,102.65	-	22,102.65
9130	LOCAL BUSINESS EXPENSE	472.61	-	472.61
9131	FOOD-BEVERAGE	958.59	-	958.59
9150	MEMBERSHIPS	49,668.50	-	49,668.50
9180	WATER	14,001.94	-	14,001.94
9190	REFUSE COLLECTION CHARGES	9,357.69	-	9,357.69
9200	ELECTRICITY	2,827,807.91	(58,174.00)	2,769,633.91
9210	NATURAL GAS	170,691.55	-	170,691.55
9310	EQUIPMENT REPAIRS	149.55	-	149.55
9340	MAINTENANCE SERVICE	700,826.82	-	700,826.82
9400	LAND RENTAL OR LEASE	4,445.88	-	4,445.88
9410	EQUIPMENT RENTALS OR LEASE	48,265.51	-	48,265.51
9430	BUILDINGS RENTALS OR LEASE	15,529.08	-	15,529.08
9440	FLEET MANAGEMENT EQUIPMENT	1,170,237.50	-	1,170,237.50
9450	311 CALL CENTER SERVICES	572,720.00	-	572,720.00
9460	ENGINEERING SERVICES	18,396.19	-	18,396.19
9470	VEHICLE RENTAL/CAR MILEAGE	36,798.31	-	36,798.31
9480	COMPUTER SERVICES	555,072.00	122,184.00	677,256.00
9480	COMPUTER SERVICES (CIS-DEPR & ROI)	-	31,310.00	31,310.00
	TOTAL OTHER SERVICES & CHARGES	<u>11,614,279.26</u>	<u>779,452.42</u>	<u>12,393,731.68</u>
9760	EQUIPMENT	757,896.25	-	757,896.25
9800	FURNITURE	8,441.06	-	8,441.06
9840	SOFTWARE	3,646.75	-	3,646.75
9880	CONSTRUCTION IN PROGRESS	54,539.25	-	54,539.25
	TOTAL CAPITAL	<u>824,523.31</u>	<u>-</u>	<u>824,523.31</u>
9510	A-87 COST ALLOCATION	867,217.00	91,692.00	958,909.00
9954	OPERATING TRANS-DEV CENTER	20,783.00	-	20,783.00
	TOTAL TRANSFERS/FEES	<u>888,000.00</u>	<u>91,692.00</u>	<u>979,692.00</u>
	GRAND TOTAL- EXPENDITURES	\$ 27,862,264.42	\$ 1,015,379.04	\$ 28,877,643.46
	LESS: SDSF CONTRIBUTION	(2,659,486.00)	(449,391.68)	(3,108,877.68)
	NET TOTAL- EXPENDITURES	<u>\$ 25,202,778.42</u>	<u>\$ 565,987.36</u>	<u>\$ 25,768,765.78</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 10, 2020

TO: Molly J. Clarin
Chief Financial Officer

FROM: Jenessa B. Carter
Acting Utility Financial Officer

**SUBJECT: 2020 WATER RATE STUDY TASK #4
FY20 OPERATING EXPENSES - WATER PUMPING FACILITIES**

This schedule allocates the integrated and non-integrated adjusted expenses for operating and maintaining the distribution system's pumping stations based on electricity costs. The operating expenses consist of direct labor, utilities, operating and maintenance supplies, repairs and maintenance, and equipment rental.

Attachment

JBC:jbc

ALLOCATION OF COLDBROOK PUMPING TO WATER PUMPING FACILITIES

STATION	ENERGY COST	PERCENT	EXPENDITURE ALLOCATION	
			ACTUAL	ADJUSTED
ALGER	\$ 18,911	1.67%	\$ 41,616	\$ 41,744
BOOSTER A	6,628	0.59%	14,586	14,631
BOOSTER D	41,951	3.73%	92,319	92,603
BRISTOL	8,649	0.77%	19,033	19,092
COLDBROOK	171,999	15.29%	378,509	379,669
COVELL	51,771	4.60%	113,930	114,279
EAST PARIS	143,330	12.74%	315,418	316,387
FRANKLIN	290,429	25.81%	639,131	641,093
LIVINGSTON	200,651	17.83%	441,561	442,917
WILSON	80,365	7.14%	176,855	177,398
BURTON	17,476	1.55%	38,458	38,577
DEAN LAKE	93,118	8.28%	204,920	205,549
TOTAL	<u>\$ 1,125,278</u>	<u>100.00%</u>	<u>\$ 2,476,336</u>	<u>\$ 2,483,939</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 25, 2020

TO: Jenessa Carter
Acting Utility Financial Officer

FROM: Molly Clarin 
Chief Financial Officer

**SUBJECT: 2020 WATER RATE STUDY TASK #5
KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY20 operating costs are listed below.

Expense Object – 7060, 7020, 7040, 7055, 7025, 7045, 7050, 7030, 7035, 7190

Per the most recent labor negotiations GREIU and APA wages were increased by 2.75% and 2.50% in FY2021 and FY2022, respectively. After converting these increases from a 2020 fiscal year to a 2021 calendar year basis, the result is a 4.035% factor for both GREIU and APA employees. There were no lump sum payments that needed to be factored into the calculation. A blended rate was then computed by weighting the calendar year percentages according to the percentage of Water Fund employees in each union (82% GREIU and 18% APA). Executive and non-reps amounted to only 2.1% of the population and were therefore excluded. **The wage increase factor to translate FY2020 actual costs to estimated calendar 2021 will be 4.035% [4.035 X 82% + 4.035 X 18%].**

Expense Object – 9480/8450/9510

Adjust FY2020 actual cost to reflect adjustments in charges for central services rendered by the Information Technology Fund (data charges), the Insurance Payment Fund (workers compensation and general liability) and the General Operating Fund (cost allocation). The “Exhibit” workbook (inclusive of cost center allocations) maintained by the Budget Office has been utilized to blend FY2021 and FY2022 budget amounts thus arriving at an estimated 2021 calendar year rate as follows:

9480-Data Charges			
Cost Center	FY2021 Request	FY2022 Forecast	Calendar 2021 Estimate
253-4010-5910	\$18,858	\$19,582	\$19,220
536-1000-5910	\$34,900	\$36,239	\$35,570
536-2110-5910	\$163,042	\$169,295	\$166,169
536-3010-5910	\$63,984	\$66,438	\$65,211
536-4510-5910	\$17,450	\$18,119	\$17,785
536-6010-5910	\$180,143	\$187,052	\$183,598
536-6510-5910	\$186,133	\$193,272	\$189,703

Total	\$664,510	\$689,997	\$677,254
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8450-General Liability Insurance			
Cost Center	FY2021 Request	FY2022 Forecast	Calendar 2021 Estimate
253-4010-5910	\$2,170	\$2,213	\$2,192
536-1000-5910	\$273,966	\$279,445	\$276,706
Total	\$276,136	\$281,658	\$278,897

9510-Contributions to Other Funds (Cost Allocation)			
Cost Center	FY2021 Request	FY2022 Forecast	Calendar 2021 Estimate
536-1000-5910	\$897,501	\$871,470	\$884,486
536-2110-5910	\$73,686	\$75,160	\$74,423
Total	\$971,187	\$946,630	\$958,909

Expense Object - 7105

Increase FY2020 actual FICA expense by 4.035% consistent with the known wage impacts detailed above.

Expense Object - 7110

The calendar 2021 Trend Report is not completed at this time. However, favorable health insurance cost trends were anticipated in calendar 2020 mainly due to decreases in costs associated with the City entering a contract with a new third-party health insurance plan administrator. Additionally, three-year smoothing of plan gains or losses is more favorable for calendar 2021 rates than it was for calendar 2020 rates (and slightly less favorable for calendar 2022 rates). Smoothing favorable trends has contributed to limiting projected annual increases in health insurance costs or has provided for further decreases when applicable. **Decrease FY2020 health insurance actual by 12.19% to reflect these anticipated rate changes.**

The projected FY21 (\$14,599.38) and FY22 (\$16,105.87) health insurance rates were blended into a 2021 calendar year rate and divided by the FY2020 base amount (\$17,483.42) to arrive at the decrease factor [(((((\$14,599.38 + \$16,105.87) / 2)) / \$17,483.42) - 1) * 100].

Expense Object - 7115

Retiree health care ("RHC") rates are projected to trend considerably down in FY2021 (to 5.96%) and FY2022 (to 5.93%) from a base year rate of 8.55% in FY2020. This decrease is slightly offset by the projected wage adjustments discussed above (lump

sum payments, if any, are not subject to RHC). The Water Fund did not have an OPEB adjustment in FY2020 due to changes resulting from the prior implementation of GASB Statement No. 75.

The RHC factor after consideration of the above rate and wage adjustments is 72.34% (or a decrease of 27.66%) for both GREIU and APA members. These factors are then weighted in accordance with union membership within the Water Fund $[(-27.66 * 82\%) + (-27.66 * 18\%)]$.

The factor to establish calendar year 2021's retiree health care cost is -27.66%.
Decrease the total of fiscal year 2020's retiree health care by this percent to establish the cost for calendar year 2021.

Expense Object - 7120

The pension expense factor to translate FY2020 actual costs to estimated calendar 2021 will be 7.39%. **Increase the total of fiscal year 2020's pension expense by this percent to establish the cost for calendar year 2021.** This reflects the effect of a General Pension rate change increase from FY20 of 22.63% to a calendar 2021 rate of 23.36% and the projected wage adjustments discussed above (lump sum payments, if any, are not pensionable). The calendar 2021 rate is a blend of the FY2021 rate (23.29%) and the FY2022 rate (23.43%).

The pension factor after consideration of the above rate and wage adjustments is 107.39% (or an increase of 7.39%) for GREIU and APA members. These factors are then weighted in accordance with union membership within the Water Fund $[(7.39 * 82\%) + (7.39 * 18\%)]$.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 14, 2020

TO: Jenessa B. Carter
Acting Utility Financial Officer

FROM: Wayne Jernberg
Water System Manager

**SUBJECT: 2020 WATER RATE STUDY TASK #5
KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY20 operating costs are listed below:

<u>ACCOUNT</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>
5910-536-1000-7520	Lead Service Line Meter Replacement (GR only)	\$73,710.00
5910-536-1000-8010	Private Lead Service Line Replacement (GR only)	\$750,000.00
5910-536-1000-8030	Kent County Community Action Program (ICB)	(\$75,264.86)
5910-536-1000-8030	Walker Avenue Front Footage Fees Reimbursement	(\$74,508.72)
5910-536-2110-8010	Cayenta Utilities Conversion to SQL	\$80,000.00
5910-536-2110-9480*	Cayenta Customer Information System (ROI & Dep)	\$31,310.00
5910-536-6510-9200	Consumers Energy Green Generation participation	(\$58,174.00)

*Customer service related adjustments are shared with the Sewage Disposal Fund

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 10, 2020

TO: Molly J. Clarin
Chief Financial Officer

FROM: Jenessa B. Carter
Acting Utility Financial Officer

SUBJECT: 2020 WATER RATE STUDY TASK #6

The Water Supply System Fund's revenue by governmental unit for the year ending June 30, 2020, are disclosed on the attached page, along with the three-year average billed volume used to calculate expected revenue in the next calendar year (see Task 26 and 27). In addition, annual volume comparisons for the past five (5) years by governmental unit are included herein.

Attachments

JBC:jbc

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
2020 RATE STUDY TASK NO. 6**

VOLUME COMPARISONS FOR FIVE (5) YEARS BY GOVERNMENTAL UNIT *
VOLUME = 1,000 GALLONS

MUNICIPALITY	FY16		FY17		FY18		FY19		FY20		FY16 - FY20 % CHANGE
	VOL BILLED	% CHANGE									
GRAND RAPIDS	6,102,682	3.14%	6,294,410	3.14%	6,346,480	0.83%	6,417,706	1.12%	5,899,570	-8.07%	-3.33%
WALKER	853,911	4.67%	893,794	4.67%	939,897	5.16%	929,719	-1.08%	835,703	-10.11%	-2.13%
KENTWOOD	1,274,046	3.14%	1,314,005	3.14%	1,377,822	4.86%	1,342,574	-2.56%	1,190,449	-11.33%	-6.56%
CASCADE TWP	633,446	11.89%	708,744	11.89%	739,323	4.31%	695,896	-5.87%	585,011	-15.93%	-7.65%
GRAND RAPIDS TWP	473,584	4.53%	495,024	4.53%	541,008	9.29%	545,871	0.90%	462,801	-15.22%	-2.28%
TALLMADGE TWP	24,635	25.48%	30,912	25.48%	37,179	20.27%	41,592	11.87%	37,831	-9.04%	53.56%
EAST GRAND RAPIDS**	416,499	0.74%	419,574	0.74%	419,637	0.02%	413,246	-1.52%	422,907	2.34%	1.54%
OTTAWA COUNTY	1,033,701	12.90%	1,167,086	12.90%	1,209,789	3.66%	1,280,873	5.88%	1,299,136	1.43%	25.68%
ADA TWP	472,046	2.22%	482,549	2.22%	463,080	-4.03%	438,337	-5.34%	417,313	-4.80%	-11.59%
TOTAL	11,284,549	4.62%	11,806,098	4.62%	12,074,215	2.27%	12,105,814	0.26%	11,150,721	-7.89%	-1.19%
VOLUME PUMPED	12,684,000		12,649,000		13,525,000		12,911,000		12,735,000		
% BILLED TO PUMPED	89.0%		93.3%		89.3%		93.8%		87.6%		
GRAND RAPIDS VOLUME COMPARED TO CUSTOMER COMMUNITIES											
VOLUME = 1,000 GALLONS											
GRAND RAPIDS	6,102,682	53.31%	6,294,410	53.31%	6,346,480	52.56%	6,417,706	53.01%	5,899,570	52.91%	
CUSTOMER COMMUNITIES	5,181,867	46.69%	5,511,688	46.69%	5,727,735	47.44%	5,688,108	46.99%	5,251,151	47.09%	
TOTAL	11,284,549	100.00%	11,806,098	100.00%	12,074,215	100.00%	12,105,814	100.00%	11,150,721	100.00%	

* Volumes were restated from previous Rate Studies to reflect actual billings without adjustment for accrued revenues.
** Volume billed for FY15 & FY16 is estimated based on three year average due to a faulty meter.

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 7**

OPERATING REVENUES OTHER THAN FROM SALES OF WATER:

536-1000-5910			
	4788	CONTRACTOR UNDERGROUND LICENSE	\$ 4,800.00
	4916	TAPPING PERMITS	54,000.00
	6260	SERVICE FEES-GENERAL	353,030.00
	6265	SERVICES FOR CONTRACTORS	39,780.99
	6140	INSPECTION FEES - UTILITIES	118,325.00
	6151	METER SETTING FEES	24,460.00
	6423	SALE OF SCRAP MATERIAL	14,846.26
	6461	INVENTORY WITHDRAWALS	12,760.97
	6434	UNMETERED WATER	177,801.96
	6723	PENALTIES ON SPECIAL ASSESSMENTS	6,703.08
			<u>6,703.08</u>
			<u>\$ 806,508.26</u>

CREDIT: UNDERUTILIZATION OF PENALTY CREDIT FROM PREVIOUS YEAR	<u>\$ -</u>
---	-------------

INTEGRATED SYSTEM CREDITS

536-1000-5910			
	6152	INTEGRATED WATER CONNECTION	386,297.50
			<u>386,297.50</u>
			<u>\$ 386,297.50</u>

OFFSETTING CREDIT TO CUSTOMER ACCOUNTING ACTIVITY EXPENSES:

536-1000-5910			
	6342	BILLABLE EXPENSE - SEWAGE DISPOSAL SYSTEM*	\$ 2,659,486.00
			<u>2,659,486.00</u>

* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: August 21, 2020

TO: Jenessa Carter
Acting Utility Financial Officer

FROM: Wayne Jernberg, PE
Water System Manager

SUBJECT: 2020 WATER RATE STUDY – TASK #8

No significant changes in operating levels are anticipated to take effect by January 1, 2021, which would require adjustments to operating costs for the test period.

WJ

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: August 21, 2020

TO: Jenessa Carter
Acting Utility Financial Officer

FROM: Wayne Jernberg, PE
Water System Manager

SUBJECT: 2020 WATER RATE STUDY – TASK #9

No significant changes in water revenues are anticipated to take effect by January 1, 2021, which would require an adjustment to operating revenue estimates as a whole.

WJ

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 12, 2020

TO: Jenessa B. Carter
Acting Utility Financial Officer

FROM: Wayne Jernberg, P.E.
Water System Manager

SUBJECT: 2020 WATER RATE STUDY- TASK #10

The following are water system projects that should be considered operative as of January 1, 2021.

<u>Description</u>	<u>Location</u>	<u>Proj. Code</u>	<u>Cost</u>
LMFP Pretreatment System Improvements	Integrated	591517045 591617045	\$14,422,275
LMFP Filter Cell 1	Integrated	591519064 591619064	990,290
LMFP High Service Pumps 5&6	Integrated	591615160	589,699
LMFP South Clearwell Improvements	Integrated	591120046	727,880
Various Projects	Grand Rapids	Contribution	194,307
Sinclair, Trowbridge & Laker Connector	Grand Rapids	591120016	172,300
Hastings and Sinclair	Grand Rapids	591120035	410,000
Alger – Eastern to Kalamazoo* (zoned W7 W8)	Grand Rapids	591519065 591619065	1,580,000
Rosewood	Grand Rapids	591620075	693,853
Tremont	Grand Rapids	591620057	1,181,856
Woodward, Sunnybrooke, Lyon* (NEW EGR)	Grand Rapids	591120041 591621038	1,117,850
Mason, Ottawa, Fairview* (W127)	Grand Rapids	591520065 591620065	4,824,100
Alger Pump Station Improvements	Grand Rapids	591616058	170,861
Livingston Pump Station* (W127)	Grand Rapids	591619094	197,500
Black Hawk Site Condominium Ph 2	GR Township	Contribution	147,540
Southern Sun	GR Township	Contribution	275,000
Gove by Watermark	GR Township	Contribution	461,000
Community West CU	Kentwood	Contribution	100,250
Northridge Drive East	Walker	Contribution	457,873
Blains Farm & Fleet	Walker	Contribution	95,300
Meadow Springs Ph 2	Walker	Contribution	116,342

Northridge Drive Ext West	Walker	591518054	300,000
		591618054	
Walker & Waldorf	Walker	591120072	215,000

Total \$29,441,076

*Zonegated asset.

*CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
TASK NO. 11*

COMPUTE ACCUMULATED COST, DEPRECIATION AND DEPRECIATION EXPENSE AS OF JUNE 30, 2020

INTEGRATED SYSTEM

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 2,507,974	\$ -	\$ -
LAND IMPROVEMENTS	3,048,258	1,777,040	99,383
BUILDINGS & STRUCTURES	48,457,487	27,605,224	958,945
STORAGE	10,514,732	6,846,807	281,914
PROCESS EQUIPMENT	66,833,454	44,337,459	2,011,207
AUXILIARY EQUIPMENT	22,265,780	15,828,274	737,880
METERS	7,375,481	7,375,481	-
MACHINERY & EQUIPMENT	5,285,379	3,241,183	232,167
OFFICE EQUIPMENT & FURNITURE	622,184	622,184	-
WATERMAINS	56,119,292	22,279,231	718,294
	<u>\$ 223,030,021</u>	<u>\$ 129,912,883</u>	<u>\$ 5,039,790</u>

NON-INTEGRATED SYSTEM

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 3,109,017	\$ -	\$ -
LAND IMPROVEMENTS	1,204,988	1,102,003	35,515
BUILDINGS & STRUCTURES	13,693,625	5,137,969	313,427
STORAGE	12,706,875	6,941,233	288,844
PROCESS EQUIPMENT	7,094,792	3,897,615	206,228
AUXILIARY EQUIPMENT	6,238,743	5,062,420	147,395
MACHINERY & EQUIPMENT	2,013,294	2,002,739	7,023
OFFICE EQUIPMENT & FURNITURE	533,805	533,805	3,729
WATERMAINS - GRAND RAPIDS	184,434,129	42,534,419	2,353,484
WATERMAINS - WALKER	29,499,375	8,698,747	388,790
WATERMAINS - KENTWOOD	31,703,682	9,711,526	414,843
WATERMAINS - CASCADE TWP	24,142,185	7,231,526	322,868
WATERMAINS - GRAND RAPIDS TWP	20,392,226	5,528,627	270,640
WATERMAINS - TALLMADGE TWP	3,103,088	525,412	39,243
	<u>\$ 339,869,824</u>	<u>\$ 98,908,041</u>	<u>\$ 4,792,029</u>
TOTAL	<u>\$ 562,899,845</u>	<u>\$ 228,820,924</u>	<u>\$ 9,831,819</u>

SOURCE: GENERAL LEDGER, AS ADJUSTED, FOR JUNE 30, 2020.

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 12**

TASK 12A DETERMINE WORKING CAPITAL NEEDS FOR MATERIALS AND SUPPLIES ON HAND.

MATERIALS AND SUPPLIES INVENTORY AS OF JUNE 30, 2020: \$ 2,009,384

TASK 12B DETERMINE WORKING CAPITAL NEEDS FOR PREPAYMENT OF OPERATING COSTS.

NO REQUIREMENT FOR PREPAYMENT OF OPERATING COSTS IS CALLED FOR IN THE ORDINARY CYCLE OF BUSINESS.

TASK 12C DETERMINE CASH WORKING CAPITAL NEEDS & DETERMINE TOTAL WORKING CAPITAL NEEDS.

MINIMUM CASH WORKING CAPITAL IS DEFINED AS THE SUM OF 90 DAYS ADJUSTED OPERATING EXPENSES.

ADJUSTED CURRENT ANNUAL EXPENSES = \$ 25,768,766 @ 90/365 = \$ 6,353,942

TOTAL WORKING CAPITAL NEEDS CONSIST OF THE FOLLOWING:

12A INVESTMENT IN INVENTORY	\$ 2,009,384
12B PREPAYMENT OF OPERATING EXPENSES	-
12C 90 DAY OPERATING EXPENSES	<u>6,353,942</u>
	<u><u>\$ 8,363,326</u></u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 6, 2020

TO: Jenessa Carter
Acting Utility Financial Officer

FROM: Wayne Jernberg, P.E.
Water System Manager

SUBJECT: 2020 WATER RATE STUDY- TASK #13

Lengths and costs of all zoned primary and intermediate transmission mains as well as jointly used storage tanks and pumping stations are allocated to customer communities based on the 2020 Comprehensive Master Plan and the current hydraulic model for the Water System.

In 2020, there were four improvement projects that involved either existing zoned facilities that were decommissioned or new assets that were added within the City of Grand Rapids Water System. The existing zoning maps, the Zoning Cross Reference List and the Joint Use List were all reviewed. From that review, the following are recommended changes for zoning of the Water System facilities for the 2020 Water Rate Study:

1. Reconstruction of Mason Street, Fairview Avenue, Ottawa Avenue, Mason Street (vacated), Ionia Avenue (vacated), and Newberry Street
 - a. Segment W127-2020 was added, including a 30" transmission watermain in Ottawa Avenue from Walbridge Street (vacated) to Mason Street, in Mason Street from Bond Avenue to Fairview Avenue, in Fairview Avenue from Mason Street (vacated) to the North Fill Chamber at Livingston Reservoir, and in Monroe Avenue at the intersection of Mason Street. Percentages were determined for this section based on the current hydraulic model.
 - b. A section of Segment W1 was decommissioned in Ionia Avenue (vacated) from Walbridge Street (vacated) to Mason Street.
2. Livingston Pump Station Project
 - a. Segment W127A-2020 was added, including a 30" transmission watermain on the pump station property, from Livingston Avenue to the Pump Station. Percentages were determined for this section based on the current hydraulic model. (Same percentages as W127-2020.)
3. Reconstruction of Alger from Eastern Avenue to Kalamazoo Avenue
 - a. Segment W7-2020 was added, including a 24" transmission watermain in Blaine Avenue from 75' north of the intersection with Alger Street to 75' south of the intersection with Alger Street. Percentages were determined for this section based on the current hydraulic model. (Same percentages as W7)

- b. 19' of Segment W7 was decommissioned in Blaine Avenue from 75' north to 62' north of the intersection with Alger Street.
 - c. 119' of Segment W8 was decommissioned in Blaine Avenue from 62' north to 57' south of the intersection with Alger Street.
4. Reconstruction of Woodward Lane from Sunnybrook Avenue to Fulton Avenue and Sunnybrook Avenue from Woodward Lake to Fulton Street and Resurfacing of Lyon Street from Mack Avenue to Fuller Avenue.
- a. Segment NEW EGR-2020 was added, including 25' of 24" transmission main in Fuller Avenue at the intersection of Lyon Street. Percentages were determined for this section based on the current hydraulic model. (Same percentages as NEW EGR)
 - b. A section of NEW EGR was decommissioned, including 25' of 24" transmission main in Fuller Avenue at the intersection of Lyon Street.

LMS

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 5, 2020

TO: Jenessa Carter
Acting Utility Financial Officer

FROM: Wayne Jernberg, P.E.
Water System Manager

SUBJECT: 2020 WATER RATE STUDY- TASK #14

Zonegating maps for the water system have been adjusted and revised to reflect the current 2020 zonegating information. Included in the 2020 zonegating information are the following changes:

Segment W127-2020 was added, including a 30" transmission watermain in Ottawa Avenue from Walbridge Street (vacated) to Mason Street, in Mason Street from Bond Avenue to Fairview Avenue, in Fairview Avenue from Mason Street (vacated) to the North Fill Chamber at Livingston Reservoir, and in Monroe Avenue at the intersection of Mason Street.

A section of Segment W1 was decommissioned in Ionia Avenue (vacated) from Walbridge Street (vacated) to Mason Street.

Segment W127A-2020 was added, including a 30" transmission watermain on the pump station property, from Livingston Avenue to the Pump Station.

Segment W7A-2020 was added, including a 24" transmission watermain in Blaine Avenue from 75' north of the intersection with Alger Street to 75' south of the intersection with Alger Street.

19' of Segment W7 was decommissioned in Blaine Avenue from 75' north to 62' north of the intersection with Alger Street.

119' of Segment W8 was decommissioned in Blaine Avenue from 62' north to 57' south of the intersection with Alger Street.

Segment NEW EGR-2020 was added, including 25' of 24" transmission main in Fuller Avenue at the intersection of Lyon Street.

A section of NEW EGR was decommissioned, including 25' of 24" transmission main in Fuller Avenue at the intersection of Lyon Street.

All 2020 zonegating work papers and maps are on file at the Water Administration Building located at 1900 Oak Industrial Dr. NE, Grand Rapids, MI 49505.

LMS

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 15**

COMPUTE CONSTRUCTION COST RATE BASE (NET BOOK VALUE OF ASSETS, PLUS WORKING CAPITAL, LESS CONTRIBUTIONS BY OTHERS).

ORIGINAL CONSTRUCTION COST	- TASK #10	\$ 29,441,076	
	- TASK #11	562,899,845	
		<hr/>	\$ 592,340,921
LESS: ACCUMULATED DEPRECIATION	- TASK #11	\$ 228,820,924	
		<hr/>	(228,820,924)
			<hr/>
			363,519,997
WORKING CAPITAL REQUIREMENT	- TASK #12	\$ 8,363,326	
		<hr/>	8,363,326
			<hr/>
			371,883,323
CONTRIBUTIONS BY OTHERS	- TASK #21	\$ 104,637,975	
LESS: AMORTIZATION		(37,636,121)	
		<hr/>	(67,001,854)
CONSTRUCTION COST RATE BASE			<hr/> <hr/>
			\$ 304,881,469

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 1, 2020

TO: Jenessa Carter
Acting Utility Financial Officer

FROM: Arden Postma, P.E.
Hydraulic Engineer

SUBJECT: 2020 Water Rate Study Integrated Connection Fees Task #15A

Attached is the Integrated Water and Sewer Connection Fee Schedule of rates effective January 1, 2021. Per the Fifth Amendment to the Water & Sanitary Sewer Service Agreements, adopted by City Commission on March 27, 2018 (Res. 87571), the methodology for connection to the water and sewer systems is calculated based on the cost of connection to the System and is evaluated annually as part of the Rate Study and shall be administered the same across the retail system.

The integrated connection fees effective January 1, 2020, shall be as follows:

Residential Users (three residential units or less)

Plan Review and Connection Fee (PRC Fee)			
Meter Size	2020	2021	% Change
3/4 inch	\$360	\$370	2.78%
1 inch	\$370	\$380	2.70%
1-1/2 inch	\$370	\$380	2.70%

All other Users (including residential of more than 3 units, commercial, industrial, governmental and religious)

Plan Review and Connection Fee (PRC Fee)			
Meter Size	2020	2021	% Change
3/4 inch	\$700	\$710	1.43%
1 inch	\$910	\$935	2.75%
1-1/2 inch	\$1,220	\$1,250	2.46%
2 inch	\$1,680	\$1,725	2.68%
3 inch	\$2,100	\$2,150	2.38%
4 inch	\$3,025	\$3,100	2.48%
6 inch	\$4,270	\$4,380	2.58%

Plus a Meter Capacity Fee based on the meter size (when water and sanitary sewer connections are made at the same time only one Meter Capacity Fee shall be charged) as follows:

Meter Capacity Charge			
Meter Size	2020	2021	% Change
¾ inch	\$210	\$210	0%
1 inch	\$250	\$250	0%
1 ½ inch - T2	\$750	\$750	0%
2 inch - T2	\$880	\$880	0%
3 inch - T2	\$1,100	\$1,100	0%
4 inch - T2	At cost	\$2,135	NA
6 inch - T2	At cost	\$3,460	NA
1 ½ inch - C2	\$1,200	\$1,200	0%
2 inch - C2	\$1,385	\$1,385	0%
3 inch - C2	\$1,755	\$1,755	0%
4 inch -C2	At cost	\$3,050	NA
6 inch - C2	At cost	\$5,265	NA

The MCC schedule is separated by two meter types; “T2” which is a traditional turbo style meter and “C2” which is a compound meter used for capturing a wider range of flows. The meter type is chosen as the City’s discretion.

Irrigation/Fire Protection Review Fee

Irrigation/Fire Service Review Fee			
	2020	2021	% Change
All Sizes	\$710	\$730	2.82%

Commercial Plan Assessment Fee – For instances where there is an established connection or property has been previously reviewed to allow for connection to the System which require less System resources to verify system connection requirements.

Commercial Plan Assessment Fee			
	2020	2021	% Change
All Sizes	\$125	\$125	NA

Further information on the new integrated connection fee methodology can be provided through the Utility Business Office.

AP/WJ

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**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 16**

INCLUDE MAJOR PROJECT COST FOR SYSTEM IMPROVEMENTS (NON-INTEGRATED)

THE ESTIMATED TOTAL PROJECT COST FOR RECOMMENDED WATER SYSTEM IMPROVEMENTS ARE
SUMMARIZED IN THE FOLLOWING TABLE.

ITEM NO.	DESCRIPTION	ESTIMATED COST	BUDGET YEAR
1	GODFREY WM REPLACEMENTS	3,560,000	2020
2	BOOSTER D IMPROVEMENTS	700,000	2020
3	COLDBROOK PUMP STATION DECOMMISSION PROJECTS	13,190,000	2020
4	BURTON/I-96 WM CROSSING	550,000	2020
5	LAKE EASTBROOK WM REPLACEMENT	1,100,000	2021
6	FULTON WM REPLACEMENT	1,210,000	2021
7	FRANKLIN WM REPLACEMENT	1,200,000	2021
8	NORWICH WM REPLACEMENT	900,000	2021
9	WILSON PS/TANK IMPROVEMENTS	3,600,000	2020/2021
10	LEAD SERVICE LINE REPLACEMENTS	1,000,000	2021
11	PRINCE - MADISON TO EASTERN	1,500,000	2021
12	DEAN LAKE EMERGENCY POWER IMPROVEMENTS	900,000	2021
13	OTTAWA - NEWBERRY TO HASTINGS	2,000,000	2021
14	GARFIELD WM REPLACEMENTS	1,290,000	2022
15	LANGLEY WM REPLACEMENT	900,000	2022
16	CASCADE NORTH RIVER CROSSING	4,200,000	2022
17	BUTTERWORTH LP DISTRICT IMPROVEMENTS	1,374,000	2022
18	COLLEGE WM REPLACEMENT	1,945,000	2022
19	RICHARDS WM REPLACEMENT	600,000	2022
20	KNAPP TANK IMPROVEMENTS	500,000	2022
21	FULLER WM REPLACEMENT	2,000,000	2022
22	PROSPECT WM REPLACEMENT	1,500,000	2022
23	LEAD SERVICE LINE REPLACEMENTS	1,000,000	2022
24	HOUSEMAN WM REPLACEMENT	700,000	2022
25	FRANKLIN PS IMPROVEMENTS (PUMPS 1-4)	4,600,000	2022
26	FULLER WM REPLACEMENT	500,000	2023
27	EMERALD WM REPLACEMENTS	1,300,000	2023
28	GIDDINGS WM REPLACEMENT	1,300,000	2023
29	OKEMOS WM REPLACEMENT	875,000	2023
30	SOUTH WALKER WATERMAIN PHASE 3	2,000,000	2023
31	INTERMEDIATE PD TANK	4,000,000	2023
32	LEONARD TANK IMPROVEMENTS	500,000	2023
33	STEVENS WM REPLACEMENT	1,000,000	2023
34	LEAD SERVICE LINE REPLACEMENTS	1,000,000	2023

35	PLAINFIELD WM REPLACEMENTS	2,000,000	2023
36	ELEANOR WM REPLACEMENTS	1,250,000	2023
37	GIDDINGS WM REPLACEMENT	1,300,000	2023
38	SIGSBEE WM REPLACEMENT	900,000	2023
39	PAGE AND LISTER WM IMPROVEMENTS	1,000,000	2023
40	KNAPP WATERMAIN REPLACEMENTS	2,250,000	2024
41	OAK PARK WM REPLACEMENT	865,000	2024
42	BUTTERWORTH WM IMPROVEMENTS	840,000	2024
43	LONDON WM IMPROVEMENTS	650,000	2024
44	ALGER TANK IMPROVEMENTS	500,000	2024
45	BLAINE WM IMPROVEMENTS	900,000	2024
46	OMENA WM REPLACEMENT	700,000	2024
47	LEAD SERVICE LINE REPLACEMENTS	1,000,000	2024
48	GRANDVILLE WM REPLACEMENTS	650,000	2024
49	LINCOLN WM REPLACEMENTS	600,000	2024
50	O'BRIEN WM EXTENSION	800,000	2024
51	HALL WM REPLACEMENT	800,000	2024
52	4 MILE RD WM LOOPING	1,000,000	2024
53	ANN WM REPLACEMENTS	587,500	2025
54	FREEMAN WM REPLACEMENT	700,000	2025
55	2ND ST WM REPLACEMENT	814,000	2025
56	FRUITWOOD WM REPLACEMENT	500,000	2025
57	KENDALL WM REPLACEMENT	800,000	2025
58	BURTON WM REPLACEMENT	3,665,000	2025
59	BOSTON WM REPLACEMENT	1,575,000	2025
60	GRANDVILLE WM REPLACEMENT	1,500,000	2025
61	KENT RIDGE WM REPLACEMENT	1,000,000	2025
62	LEAD SERVICE LINE REPLACEMENTS	<u>1,000,000</u>	2025
		<u>\$ 94,640,500</u>	

NOTE: NONE OF THE PROJECTS ABOVE ARE INCLUDED IN RECOMMENDED REVENUE REQUIREMENTS FOR CALENDAR YEAR 2021. COSTS SHOWN ARE IN 2020 DOLLARS AND ARE TAKEN FROM THE FISCAL YEARS 2020-2024 CAPITAL PROJECT PLAN.

SOURCE: WAYNE JERNBERG, WATER SYSTEM MANAGER, AUGUST 2020

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 17**

BONDS - PRINCIPAL & INTEREST PAYMENTS (SENIOR)

FISCAL YEAR ENDING JUNE 30,	PRINCIPAL	INTEREST	PRIN & INT
2021	\$ 2,780,000	\$ 5,206,381	\$ 7,986,381
2022	3,335,000	5,721,269	9,056,269
2023	3,505,000	5,559,331	9,064,331
2024	3,695,000	5,388,831	9,083,831
2025	3,875,000	5,208,950	9,083,950
2026	4,080,000	5,020,150	9,100,150
2027	4,285,000	4,820,950	9,105,950
2028	4,515,000	4,611,800	9,126,800
2029	4,450,000	4,388,850	8,838,850
2030	4,665,000	4,166,350	8,831,350
2031	4,900,000	3,933,100	8,833,100
2032	5,140,000	3,697,050	8,837,050
2033	5,385,000	3,449,350	8,834,350
2034	5,640,000	3,189,750	8,829,750
2035	5,930,000	2,907,750	8,837,750
2036	3,970,000	2,611,250	6,581,250
2037	4,165,000	2,412,750	6,577,750
2038	4,380,000	2,204,500	6,584,500
2039	4,600,000	1,985,500	6,585,500
2040	3,070,000	1,755,500	4,825,500
2041	3,230,000	1,602,000	4,832,000
2042	3,390,000	1,440,500	4,830,500
2043	3,555,000	1,271,000	4,826,000
2044	3,735,000	1,093,250	4,828,250
2045	3,925,000	906,500	4,831,500
2046	4,125,000	710,250	4,835,250
2047	3,330,000	504,000	3,834,000
2048	3,500,000	337,500	3,837,500
2049	1,585,000	162,500	1,747,500
2050	1,665,000	83,250	1,748,250
	<u>\$ 118,405,000</u>	<u>\$ 86,350,113</u>	<u>\$ 204,755,113</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 18**

DETERMINE WATER SYSTEM EQUITY IN THE CONSTRUCTION COST RATE BASE BY
SUBTRACTING DEBT OUTSTANDING FROM THE TOTAL RATE BASE.

CONSTRUCTION COST RATE BASE - TASK NO. 15	\$ 304,881,469
LESS: BONDED INDEBTEDNESS in CCRB (CASH BASIS) - TASK NO. 20	(97,035,346)
NET WATER SYSTEM EQUITY	<u>\$ 207,846,123</u>

**CITY OF GRAND RAPIDS, MICHIGAN
 WATER RATE STUDY
 WATER SUPPLY SYSTEM FUND
 RATE OF RETURN ON EQUITY - TASK NO. 19**

AT THE APRIL 5, 1977, COMMITTEE OF THE WHOLE MEETING, THE CITY COMMISSION DECIDED THE LEVEL OF RETURN ON WATER SYSTEM EQUITY. THE LEVEL DECIDED UPON WAS ONE PERCENT MORE THAN THE AVERAGE BOND BUYER'S INDEX OF MUNICIPAL BONDS FOR THE PREVIOUS TWELVE MONTH PERIOD.

BOND BUYER'S INDEX OF 20 MUNICIPAL BONDS

<u>DATE</u>	<u>RATE</u>	<u>DATE</u>	<u>RATE</u>
26-Sep-19	2.662%	26-Mar-20	2.270%
03-Oct-19	2.622%	02-Apr-20	2.840%
10-Oct-19	2.590%	09-Apr-20	2.490%
17-Oct-19	2.700%	16-Apr-20	2.250%
24-Oct-19	2.750%	23-Apr-20	2.360%
31-Oct-19	2.792%	30-Apr-20	2.560%
07-Nov-19	2.860%	07-May-20	2.600%
14-Nov-19	2.850%	14-May-20	2.480%
21-Nov-19	2.792%	21-May-20	2.370%
28-Nov-19	2.770%	28-May-20	2.160%
05-Dec-19	2.767%	04-Jun-20	2.160%
12-Dec-19	2.740%	11-Jun-20	2.190%
19-Dec-19	2.740%	18-Jun-20	2.210%
26-Dec-19	2.740%	25-Jun-20	2.210%
02-Jan-20	2.730%	02-Jul-20	2.210%
09-Jan-20	2.630%	09-Jul-20	2.190%
16-Jan-20	2.557%	16-Jul-20	2.120%
23-Jan-20	2.540%	23-Jul-20	2.100%
30-Jan-20	2.470%	30-Jul-20	2.090%
06-Feb-20	2.527%	06-Aug-20	2.020%
13-Feb-20	2.510%	13-Aug-20	2.050%
20-Feb-20	2.457%	20-Aug-20	2.150%
27-Feb-20	2.270%	27-Aug-20	2.200%
05-Mar-20	2.310%	03-Sep-20	2.220%
12-Mar-20	2.567%	10-Sep-20	2.220%
19-Mar-20	2.720%	17-Sep-20	2.220%
		<u>52 WEEKS</u>	<u>2.454%</u>

**CITY OF GRAND RAPIDS, MICHIGAN
 WATER RATE STUDY
 WATER SUPPLY SYSTEM FUND
 TASK NO. 20**

DETERMINE COMPOSITE RATE OF RETURN ON A CONSTRUCTION COST RATE BASE

	RATE BASE	RATE OF RETURN	RETURN ON INVESTMENT
WATER SYSTEM EQUITY IN THE CONSTRUCTION COST RATE BASE (CCRB)	\$ 207,846,123	@ 3.454%	= \$ 7,178,805
WATER SYSTEM INDEBTEDNESS IN THE CCRB			
2011 DWRF BONDS	1,086,301	@ 2.50%	= 27,158
2011 DWRF BONDS	1,941,024	@ 2.50%	= 48,526
2012 DWRF BONDS	2,445,930	@ 2.50%	= 61,148
2012 DWRF BONDS	473,514	@ 2.00%	= 9,470
2013 BONDS	1,730,000	@ 2.76%	= 47,748
2014 DWRF BONDS	2,272,840	@ 2.50%	= 56,821
2014 QECB BONDS	840,813	@ 2.54%	= 21,357
2015 BONDS (refunded 2009 Bonds)	23,350,000	@ 5.00%	= 1,167,500
2015 DWRF BONDS	8,153,063	@ 2.50%	= 203,827
2016 DWRF BONDS	1,813,008	@ 2.50%	= 45,325
2016 BONDS (refunded 2009)	35,535,000	@ 4.99%	= 1,771,671
2018 BONDS (refunded 1993 & amt in CCRB)	16,954,331	@ 5.00%	= 847,717
2020 BONDS (amt in CCRB)	439,522	@ 5.00%	= 21,976
LESS INTEREST ON BOND RESERVE ACCOUNTS			(107,807)
	\$ 304,881,469		\$ 11,401,242
COMPOSITE RATE OF RETURN ON INVESTMENT		\$ 11,401,242 \$304,881,469 =	3.740%
<u>Noted Disclosure:</u>			
TOTAL BONDED INDEBTEDNESS IN CCRB (from above)	\$ 97,035,346	TASK NO. 18	

CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 CONSTRUCTION COST RATE BASE & RETURN ON INVESTMENT- TASK NO. 21- PART 1
 FISCAL YEAR ENDED JUNE 30, 2020

PHYSICAL LOCATION

DESCRIPTION	RETAIL						WHOLESALE				TOTAL
	CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA	ADA TOWNSHIP		
COST	\$ 239,760,165	\$ 31,184,881	\$ 38,856,152	\$ 24,169,798	\$ 19,942,615	\$ 3,103,088	\$ -	\$ -	\$ -	\$ 560,703,451	
LESS: ACCUMULATED DEPRECIATION	129,912,883	8,988,662	11,747,252	7,231,253	5,001,835	525,412	-	-	-	222,256,630	
NET BOOK VALUE	\$ 109,847,282	\$ 22,196,219	\$ 27,108,900	\$ 16,938,545	\$ 14,940,780	\$ 2,577,676	\$ -	\$ -	\$ -	\$ 344,446,821	
WORKING CAPITAL REQUIREMENT	3,540,196	429,206	505,061	370,746	306,432	23,919	19,654	-	62,809	8,363,326	
CONTRIBUTIONS	\$ 113,387,478	\$ 153,942,722	\$ 22,625,425	\$ 17,309,291	\$ 15,247,212	\$ 2,601,595	\$ 19,654	\$ -	\$ 62,809	\$ 352,810,147	
LESS AMORTIZATION	580,137	25,070,943	21,999,888	20,900,996	14,587,713	3,058,480	-	-	-	104,570,364	
	(60,765)	(13,635,979)	(6,109,136)	(6,193,689)	(4,181,872)	(536,380)	-	-	-	(37,568,510)	
CONSTRUCTION COST RATE BASE	\$ (519,352)	\$ (11,434,964)	\$ (12,263,071)	\$ (14,707,307)	\$ (10,405,841)	\$ (2,522,100)	\$ -	\$ -	\$ -	\$ (67,001,854)	
	\$ 112,868,126	\$ 7,476,206	\$ 15,350,890	\$ 2,601,984	\$ 4,841,371	\$ 79,495	\$ 19,654	\$ -	\$ 62,809	\$ 285,808,293	
RETURN ON INVESTMENT- TASK 4/5										\$ 1,884	
RETURN ON INVESTMENT- TASK 20	\$ 4,221,268	\$ 5,327,906	\$ 574,123	\$ 97,314	\$ 181,067	\$ 2,973	\$ 735	\$ -	\$ 2,349	\$ 10,687,345	
	3.740%										

ZONEGATED

COST	\$ -	\$ (8,819,764)	\$ 1,875,383	\$ 5,020,227	\$ 6,273,532	\$ 234,349	\$ 1,828,046	\$ -	\$ 6,144,017	\$ 25,637,469
LESS: ACCUMULATED DEPRECIATION	-	(5,263,037)	803,452	2,285,063	1,806,716	108,137	679,835	-	1,926,965	6,564,294
NET BOOK VALUE	-	(3,556,727)	1,071,931	2,735,164	4,466,816	126,212	1,148,211	\$ -	4,217,052	19,073,175
WORKING CAPITAL REQUIREMENT	-	-	-	-	-	-	-	-	-	-
CONTRIBUTIONS	\$ -	\$ (3,556,727)	\$ 1,071,931	\$ 2,735,164	\$ 4,466,816	\$ 126,212	\$ 1,148,211	\$ -	\$ 4,217,052	\$ 19,073,175
LESS AMORTIZATION	-	-	-	9,139	23,789	-	-	-	29,122	67,611
	-	-	-	(9,139)	(23,789)	-	-	-	(29,122)	(67,611)
CONSTRUCTION COST RATE BASE	\$ -	\$ (3,556,727)	\$ 1,071,931	\$ 2,735,164	\$ 4,466,816	\$ 126,212	\$ 1,148,211	\$ -	\$ 4,217,052	\$ 19,073,175
RETURN ON INVESTMENT- TASK 19/20	\$ -	\$ (247,331)	\$ 74,541	\$ 190,201	\$ 310,618	\$ 8,777	\$ 79,845	\$ -	\$ 293,250	\$ 1,326,331
RETURN ON INVESTMENT- TASK 19/20	6.954%	6.954%	6.954%	6.954%	6.954%	6.954%	6.954%	-	6.954%	6.954%
TOTAL RETURN ON INVESTMENT	\$ 4,221,268	\$ 5,080,575	\$ 354,151	\$ 764,324	\$ 491,685	\$ 11,750	\$ 80,580	\$ -	\$ 295,599	\$ 12,013,676

CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
CONSTRUCTION COST & ACCUMULATED DEPRECIATION - TASK NO. 21 - PART 2
FISCAL YEAR ENDED JUNE 30, 2020

COST CENTER BY PHYSICAL LOCATION- TASK 11 IN SERVICE- TASK 10	AMOUNT	CONSTRUCTION COST										TOTAL
		RETAIL					WHOLESALE					
		CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	CITY OF OTTAWA	ADA TOWNSHIP	TOTAL	
	\$ 223,030.021	\$ 219,877,969	\$ 30,331,967	\$ 42,022,389	\$ 24,142,185	\$ 20,392,226	\$ 3,103,088	\$ -	\$ -	\$ -	\$ 562,899,845	
	16,730.144	10,251,890	1,184,515	144,515	28,372	1,101,639	-	-	-	-	29,441,076	
PUMPING STATIONS:												
KNAPP SERVICE CENTER	\$ 3,379,233	(2,341,763)	-	162,002	146,626	1,119,179	-	-	-	913,956	-	
LIVINGSTON	3,110,531	(955,980)	-	71,937	59,313	455,641	-	-	-	369,089	-	
FRANKLIN	8,541,087	(5,745,248)	-	3,183,776	1,605,810	-	-	-	-	-	-	
LEFFINGWELL	141,009	(82,685)	-	11,176	6,801	29,093	-	-	-	35,615	-	
BRISTOL	612,700	-	-	-	-	-	-	-	-	-	-	
EAST PARIS	6,379,717	378,782	-	(2,468,590)	2,089,808	-	-	-	-	-	-	
BURTON	219,892	(4,994)	-	-	-	-	-	-	-	-	-	
COLDBROOK PS PUMP 2	389,279	(869,049)	-	-	-	4,994	-	-	-	-	-	
COVELL	1,563,604	(558,474)	-	-	-	-	25,041	-	-	-	-	
WILSON	782,625	-	-	-	-	-	-	-	-	-	-	
STORAGE TANKS:												
ELKS	236,335	(81,525)	81,206	-	-	-	-	-	-	-	-	
KNAPP	118,570	(80,825)	-	5,593	5,078	38,572	-	-	-	31,582	-	
CAMBRIDGE	471,529	(64,335)	-	64,335	-	-	-	-	-	-	-	
PATTERSON	3,938,991	299,839	-	(3,122,587)	2,822,748	-	-	-	-	-	-	
WATERMANS		(19,156,614)	60,094	3,801,832	6,344,736	3,074,803	208,989	872,384	-	4,793,775	(1)	
ADJUSTED BY ZONEGATING	\$ 239,760,165	\$ 200,866,988	\$ 33,060,264	\$ 43,876,379	\$ 37,251,477	\$ 26,216,147	\$ 3,337,437	\$ 1,828,046	\$ -	\$ 6,144,017	\$ 592,340,920	
LESS: ZONEGATING ADJUSTMENT	\$ -	\$ (8,819,764)	\$ 1,875,383	\$ 5,020,227	\$ 13,081,679	\$ 6,273,532	\$ 234,349	\$ 1,828,046	\$ -	\$ 6,144,017	\$ 25,637,469	
PHYSICAL LOCATION	\$ 239,760,165	\$ 209,686,752	\$ 31,184,881	\$ 38,856,152	\$ 24,169,798	\$ 19,942,615	\$ 3,103,088	\$ -	\$ -	\$ -	\$ 566,703,451	
ACCUMULATED DEPRECIATION												
BY PHYSICAL LOCATION- TASK 11	\$ 129,912,883	\$ 63,583,029	\$ 9,175,765	\$ 12,863,682	\$ 7,231,526	\$ 5,528,627	\$ 525,412	\$ -	\$ -	\$ -	\$ 228,820,924	
IN SERVICE- TASK 10	-	-	-	-	-	-	-	-	-	-	-	
PUMPING STATIONS:												
KNAPP SERVICE CENTER	\$ 2,547,485	(1,765,374)	-	122,128	110,536	843,710	-	-	-	689,000	-	
LIVINGSTON	1,221,567	(375,432)	-	28,251	23,293	178,939	-	-	-	144,949	-	
FRANKLIN	4,420,927	(2,973,781)	-	1,647,945	831,178	-	-	-	-	-	-	
LEFFINGWELL	141,009	(82,685)	-	11,176	6,801	29,093	-	-	-	35,615	-	
BRISTOL	364,998	-	-	-	-	-	-	-	-	-	-	
EAST PARIS	2,440,323	144,889	-	(944,267)	799,378	-	-	-	-	-	-	
BURTON	112,020	-	-	-	-	-	-	-	-	-	-	
COLDBROOK PS PUMP 2	90,832	(1,165)	-	-	-	1,165	-	-	-	-	-	
COVELL	638,572	(354,917)	354,917	-	-	-	-	-	-	-	-	
WILSON	130,437	(93,078)	88,905	-	-	-	4,173	-	-	-	-	
STORAGE TANKS:												
ELKS	236,335	(81,525)	81,206	-	-	-	-	-	-	-	-	
KNAPP	116,070	(79,121)	-	5,475	4,971	37,759	-	-	-	30,916	-	
CAMBRIDGE	139,767	(19,070)	-	19,070	-	-	-	-	-	-	-	
PATTERSON	711,833	54,185	-	(564,297)	510,112	-	-	-	-	-	-	
WATERMANS		(4,369,659)	91,321	843,152	1,930,621	189,258	103,645	185,177	-	1,026,485	-	
ADJUSTED BY ZONEGATING	\$ 129,912,883	\$ 53,586,296	\$ 9,792,114	\$ 14,032,315	\$ 11,448,416	\$ 6,808,551	\$ 633,549	\$ 679,835	\$ -	\$ 1,926,965	\$ 228,820,924	
LESS: ZONEGATING ADJUSTMENT	\$ -	\$ (5,263,037)	\$ 803,452	\$ 2,285,063	\$ 4,217,163	\$ 1,806,716	\$ 108,137	\$ 679,835	\$ -	\$ 1,926,965	\$ 6,564,294	
PHYSICAL LOCATION	\$ 129,912,883	\$ 58,849,333	\$ 8,988,662	\$ 11,747,252	\$ 7,231,253	\$ 5,001,835	\$ 525,412	\$ -	\$ -	\$ -	\$ 222,256,630	

CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 CONTRIBUTIONS & AMORTIZED CONTRIBUTIONS- TASK NO. 21- PART 3
 FISCAL YEAR ENDED JUNE 30, 2020

CONTRIBUTIONS BY OTHERS

COST CENTER	INTEGRATED SYSTEM	CITY OF GR	RETAIL				WHOLESALE				TOTAL
			CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA	ADA TOWNSHIP	
2019 RATE STUDY- LOCATION	\$ 580,137	\$ 24,458,699	\$ 20,802,842	\$ 17,738,346	\$ 20,642,604	\$ 14,404,983	\$ 2,770,369	-	-	-	\$ 101,397,980
ADDITIONS:											
FRONT FOOT FEES	-	52,900	(58,509)	24,400	4,900	95,730	-	-	-	-	119,421
FIXED ASSET CONTRIBUTIONS	-	559,344	1,255,555	609,461	253,492	87,000	288,111	-	-	-	3,052,963
OTHER CONTRIBUTIONS	-	-	-	-	-	-	-	-	-	-	-
PUMPING STATIONS:	580,137	25,070,943	21,999,888	18,372,207	20,900,996	14,587,713	3,058,480	-	-	-	104,570,364
LEFFINGWELL											
			\$ 115,303								
ADJUSTED BY ZONEGATING	580,137	25,070,943	21,999,888	18,381,346	20,906,557	14,611,502	3,058,480	-	-	29,122	104,637,975
LESS: ZONEGATING ADJUSTMENT	-	-	-	9,139	5,561	23,789	-	-	-	29,122	67,611
PHYSICAL LOCATION	580,137	25,070,943	21,999,888	18,372,207	20,900,996	14,587,713	3,058,480	-	-	-	104,570,364
AMORTIZED CONTRIBUTIONS											
2019 RATE STUDY- LOCATION	\$ 53,050	\$ 13,013,538	\$ 6,553,471	\$ 5,861,691	\$ 5,913,725	\$ 3,985,351	\$ 495,600	\$ -	\$ -	\$ -	\$ 35,876,426
CURRENT YEAR ADJUSTMENTS	7,735	322,602	297,198	247,445	279,964	196,521	40,780	-	-	-	1,392,245
PRIOR PERIOD ADJUSTMENT	-	299,839	-	-	-	-	-	-	-	-	299,839
PUMPING STATIONS:	60,785	13,635,979	6,850,669	6,109,136	6,193,689	4,181,872	536,380	-	-	-	37,568,510
LEFFINGWELL											
				9,139	5,561	23,789	-	-	-	29,122	67,611
ADJUSTED BY ZONEGATING	60,785	13,635,979	6,850,669	6,118,275	6,199,250	4,205,661	536,380	-	-	29,122	37,636,121
LESS: ZONEGATING ADJUSTMENT	-	-	-	9,139	5,561	23,789	-	-	-	29,122	67,611
PHYSICAL LOCATION	60,785	13,635,979	6,850,669	6,109,136	6,193,689	4,181,872	536,380	-	-	-	37,568,510

CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
RECONCILIATION OF CONSTRUCTION COST & ACCUMULATED DEPRECIATION - PHYSICAL LOCATION & ZONEGATING
FISCAL YEAR ENDED JUNE 30, 2020

COST CENTER	AMOUNT	CONSTRUCTION COST - BY PHYSICAL LOCATION										TOTAL
		RETAIL					WHOLESALE					
		CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	CITY OF OTTAWA	ADA TOWNSHIP		
COST BY PHYSICAL LOCATION - TASK 11		\$ 231,029,268	\$ 29,499,275	\$ 31,703,682	\$ 24,142,185	\$ 20,392,226	\$ 3,103,088					\$ 562,899,845
IN SERVICE - TASK 10		16,730,144	1,184,515	144,515	28,372	1,101,639						29,441,076
BRISTOL		(612,700)	612,700									
EAST PARIS		(6,379,717)	6,379,717									
BURTON		(219,892)	219,892									
PATTERSON TANK		(3,938,991)	3,938,991									
WATERMANS		(29,605,250)	(725,425)	(10,825,800)	(6,200)	(2,208,247)						(43,370,922)
LESS: WATERMANS-TOTAL SUBS-HOME COMM		9,162,143	393,824	7,515,047	5,441	656,997						17,733,452
ADD: WATERMANS-TOTAL ADDS-HOME COMM		\$ 209,656,752	\$ 31,184,881	\$ 38,856,152	\$ 24,169,798	\$ 19,942,615	\$ 3,103,088					\$ 566,703,451
TOTAL - PHYSICAL LOCATION COST		\$ 239,760,165	\$ 31,184,881	\$ 38,856,152	\$ 24,169,798	\$ 19,942,615	\$ 3,103,088					\$ 566,703,451
CONSTRUCTION COST - ZONEGATING												
PUMPING STATIONS:												
KNAPP SERVICE CENTER		\$ 3,379,233	\$ (2,341,763)	\$ 162,002	\$ 146,626	\$ 1,119,179	\$ -	\$ -	\$ -	\$ 913,956	\$ -	\$ -
LIVINGSTON		3,110,531	(955,980)	71,937	59,313	455,641				369,089		
FRANKLIN		8,541,087	(5,745,248)	3,183,776	1,605,810			955,662				
LEFFINGWELL		141,009	(82,685)	11,176	6,801	29,093				35,615		
BRISTOL		612,700										
EAST PARIS		6,379,717	378,782	(2,468,590)		2,089,808						
BURTON		219,892										
COLDBROOK PS PUMP 2		389,279	(4,994)			4,994						
COVELL		1,563,604	(869,049)									
WILSON		782,625	(558,474)				25,041					
STORAGE TANKS:												
ELKS		236,335	(81,525)									
KNAPP		118,570	(80,325)	5,593	5,078	38,572				31,582		
CAMBRIDGE		147,529	(64,335)									
PATTERSON		3,938,991	299,339	(3,122,587)	2,822,748							
WATERMANS - ZONEGATED COST			1,286,493	391,695	7,112,585	6,345,495	208,989	872,384		4,793,775		25,637,469
TOTAL - ZONEGATED COST		\$ (6,819,764)	\$ 1,875,383	\$ 5,020,227	\$ 13,081,679	\$ 6,273,532	\$ 234,349	\$ 1,828,046	\$ -	\$ 6,144,017	\$ -	\$ 25,637,469
GRAND TOTAL - COST		\$ 239,760,165	\$ 33,060,264	\$ 43,876,379	\$ 37,251,477	\$ 26,216,147	\$ 3,337,437	\$ 1,828,046	\$ -	\$ 6,144,017	\$ -	\$ 592,340,920
ACCUMULATED DEPRECIATION BY PHYSICAL LOCATION												
ACC DEPREC BY PHYSICAL LOCATION - TASK 11		\$ 129,912,883	\$ 67,212,203	\$ 6,988,747	\$ 7,231,526	\$ 5,528,627	\$ 525,412	\$ -	\$ -	\$ -	\$ -	\$ 228,820,924
BRISTOL		(364,998)	364,998									
EAST PARIS		(2,440,323)	2,440,323									
BURTON		(112,020)	112,020									
PATTERSON		(711,833)	711,833									
WATERMANS		(7,231,759)	(444,510)	(2,919,155)	(2,232)	(722,368)						(11,320,024)
LESS: WATERMANS-TOTAL SUBS-HOME COMM		2,498,063	257,406	1,802,725	1,959	195,576						4,755,729
ADD: WATERMANS-TOTAL ADDS-HOME COMM		\$ 58,849,333	\$ 8,988,661	\$ 11,747,252	\$ 7,231,253	\$ 5,001,835	\$ 525,412	\$ -	\$ -	\$ -	\$ -	\$ 222,256,629
TOTAL - PHYSICAL LOCATION ACC DEP		\$ 129,912,883	\$ 67,212,203	\$ 6,988,747	\$ 7,231,526	\$ 5,528,627	\$ 525,412	\$ -	\$ -	\$ -	\$ -	\$ 228,820,924
PUMPING STATIONS:												
KNAPP SERVICE CENTER		\$ 2,547,485	\$ (1,765,374)	\$ 122,128	\$ 110,536	\$ 843,710	\$ -	\$ -	\$ -	\$ 689,000	\$ -	\$ -
LIVINGSTON		1,221,567	(375,432)	28,251	23,293	178,939				144,949		
FRANKLIN		4,420,927	(2,973,181)	1,647,945	831,178			494,658				
LEFFINGWELL		141,009	(82,685)	11,176	6,801	29,093				35,615		
BRISTOL		364,998										
EAST PARIS		2,440,323	144,889	(944,267)		799,378						
BURTON		112,020										
COLDBROOK PS PUMP 2		90,832	(1,165)			1,165						
COVELL		638,572	(354,917)									
WILSON		130,437	(93,078)				4,173					
STORAGE TANKS:												
ELKS		236,335	(81,525)									
KNAPP		118,570	(79,121)	5,475	4,971	37,759				30,916		
CAMBRIDGE		139,767	(19,070)									
PATTERSON		711,833	54,185	(584,297)	510,112							
WATERMANS - ZONEGATED ACC DEP			364,037	278,424	1,959,582	1,900,894	103,645	185,177		1,026,485		6,564,294
TOTAL - ZONEGATED ACC DEP		\$ (5,263,037)	\$ 2,285,063	\$ 4,217,163	\$ 1,806,716	\$ 1,806,716	\$ 108,137	\$ 679,835	\$ -	\$ 1,926,965	\$ -	\$ 6,564,294
GRAND TOTAL - ACC DEP		\$ 129,912,883	\$ 67,212,203	\$ 6,988,747	\$ 7,231,526	\$ 5,528,627	\$ 525,412	\$ -	\$ -	\$ -	\$ -	\$ 228,820,924

CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 ADJUSTED OPERATING EXPENSE ZONEGATED BY GOVERNMENTAL UNIT - TASK #22
 FISCAL YEAR ENDED JUNE 30, 2020

COST CENTER	ADJUSTED EXPENSE BY COST CENTER	INTEGRATED SYSTEM	RETAIL						WHOLESALE				
			CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA	ADA TOWNSHIP		
FILTRATION PLANT	\$ 8,081,321	\$ 8,081,321											
PUMPING STATIONS:													
A. PRIMARY TRANSPORT	595,646	595,646											
B. INTERMEDIATE TRANSPORT	1,888,293		999,600	19,092	365,690	198,050	143,887		44,972				117,002
WATERMAINS:													
A. PRIMARY TRANSPORT	339,187		196,422	29,703	45,838	33,108	16,807		3,182				14,015
B. INTERMEDIATE TRANSPORT	1,753,241		648,891	373,090	286,532	267,720	125,129		-	29,034			22,845
C. LOCAL DISTRIBUTION	4,540,093		3,316,493	358,304	312,585	251,930	283,801		-	16,980			-
RETAIL CUSTOMER METERING *	3,299,858		2,449,321	271,809	227,162	157,799	181,327			12,440			
SUBTOTAL OPERATING EXPENSE	20,497,639	8,676,967	7,610,727	1,051,998	1,237,807	908,607	750,951		48,154	58,566			153,862
ENGINEERING SERVICES	1,282,788	543,003	476,299	65,833	77,468	56,866	47,001		3,015	3,669			9,634
ADMINISTRATIVE EXPENSE	3,988,339	1,339,587	1,998,737	162,409	191,112	140,288	115,952		7,437	9,051			23,766
TOTAL	\$ 25,768,766	\$ 10,559,557	\$ 10,085,763	\$ 1,280,240	\$ 1,506,387	\$ 1,105,761	\$ 913,904		\$ 58,606	\$ 71,286			\$ 187,262

* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

METHOD OF DISTRIBUTION

FILTRATION PLANTS	100.00%													
PUMPING STATIONS		100.00%												
A. PRIMARY TRANSPORT	100.00%	100.00%												
B. INTERMEDIATE TRANSPORT	100.00%	100.00%	52.937%	1.011%	19.366%	10.488%	7.620%		2.382%				6.196%	
MEMO														
WATERMAINS														
TOTAL MILES:	1,187.89													
A. PRIMARY TRANSPORT	60.75	100.00%	57.910%	8.757%	13.514%	9.761%	4.955%		0.938%	0.033%			4.132%	
MILES	314.01	100.00%	35.18	5.32	8.21	5.93	3.01		0.57	0.02			2.51	
B. INTERMEDIATE TRANSPORT	813.13	100.00%	37.011%	21.280%	16.343%	15.270%	7.137%		1.656%	1.656%			1.303%	
MILES	80,358.00	100.00%	116.22	66.82	51.32	47.95	22.41		5.20	5.20			4.09	
C. LOCAL DISTRIBUTION		100.00%	73.049%	7.892%	6.885%	5.549%	6.251%		0.374%	0.374%			-	
MILES		100.00%	593.99	64.17	55.98	45.12	50.83		-	3.04			-	
RETAIL CUSTOMER METERING (1)		100.00%	74.225%	8.237%	6.884%	4.782%	5.495%		0.377%	0.377%			-	
NUMBER OF METERS		100.00%	59,645.00	6,619.00	5,532.00	3,843.00	4,416.00		303.00	303.00			-	
ENGINEERING SERVICES (2)		100.00%	37.130%	5.132%	6.039%	4.433%	3.664%		0.235%	0.286%			0.751%	
ADMINISTRATIVE EXPENSE (3)		100.00%	50.115%	4.072%	4.792%	3.517%	2.907%		0.186%	0.227%			0.596%	

NOTES:

- (1) ALLOCATION BASED ON NUMBER OF METERS
- (2) ALLOCATION BASED ON DIRECT OPERATING EXPENSE.
- (3) ALLOCATION BASED ON DIRECT OPERATING EXPENSE, ADJUSTED FOR ANY COST ASSIGNABLE EXCLUSIVELY TO GR OR RETAIL COMMUNITIES, IF APPLICABLE.

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 23**

ASSIGN OTHER OPERATING REVENUES AND UNDERUTILIZED PENALTY CREDIT FROM PREVIOUS YEAR TO EACH GOVERNMENTAL ENTITY - TASK NO. 7

BASIS OF ALLOCATION: RETAIL BILLINGS BY GOVERNMENTAL ENTITY - TASK NO. 6

	<u>RETAIL BILLINGS</u>	<u>PERCENTAGE OF TOTAL</u>	<u>ALLOCATION</u>
CITY OF GRAND RAPIDS	\$ 26,232,967	65.8626%	\$ 531,187
CITY OF WALKER	3,378,015	8.4811%	68,401
CITY OF KENTWOOD	4,241,747	10.6497%	85,891
CASCADE TOWNSHIP	3,447,925	8.6566%	69,816
GRAND RAPIDS TOWNSHIP	2,324,803	5.8368%	47,074
TALLMADGE TOWNSHIP	204,405	0.5132%	4,139
	<u>\$ 39,829,862</u>	<u>100.0000%</u>	<u>\$ 806,508</u>

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CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 ACCUMULATE REVENUE REQUIREMENTS BY CUSTOMER COMMUNITIES- TASK NO. 25
 FISCAL YEAR ENDED JUNE 30, 2020

COST CENTER	INTEGRATED SYSTEM	RETAIL							WHOLESALE			TOTAL
		CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	CITY OF OTTAWA	COUNTY OF ADA TOWNSHIP		
OPERATION & MAINTENANCE EXPENSE- TASK NO. 22	\$ 10,559,557	\$ 1,280,240	\$ 1,506,387	\$ 1,105,761	\$ 913,904	\$ 71,286	\$ 58,606	\$ -	\$ 187,262	\$ 25,768,766		
DEPRECIATION EXPENSE TASK NO. 24	5,608,802	186,378	347,577	313,486	171,716	2,085	44,822	-	97,949	9,172,624		
RETURN ON SYSTEM INVESTMENT TASK NO. 21	4,221,268	5,080,575	764,324	713,744	491,685	11,750	80,580	-	295,599	12,013,676		
REVENUE CREDITS- TASK NO. 23	-	(531,187)	(85,891)	(69,816)	(47,074)	(4,139)	-	-	-	(806,508)		
ALLOCATE:												
INTEG CONN. FEE CREDIT (A)	-	(41,714)	(46,375)	(32,411)	(21,704)	(2,611)	(14,314)	-	(17,224)	(386,298)		
INTEGRATED SYSTEM (A)	(20,389,627)	1,964,904	2,184,461	1,526,702	1,022,375	123,008	674,243	2,193,379	811,335	-		
LESS: CIRCUIT BREAKER (B)	-	(105,253)	(129,136)	-	(25,928)	-	-	-	-	(260,317)		
	\$ -	\$ 3,570,305	\$ 4,541,347	\$ 3,557,466	\$ 2,504,974	\$ 201,379	\$ 843,937	\$ 2,193,379	\$ 1,374,921	\$ 45,501,943		

(A) ALLOCATED ON THE BASIS OF RELATIVE BILLED VOLUME & LAND AREA TO UAB PARTNERS. OTTAWA'S ALLOCATION IS BASED ON OLD CONTRACT AND EXCLUDES ANY COST OF COLDBROOK PUMPING.
 (B) PURSUANT TO CITY AND CUSTOMER COMMUNITY CIRCUIT BREAKER, AS PROVIDED FOR BY THE THIRD AMENDMENT TO THE UNIFORM SERVICE AGREEMENTS.

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 25A**

REVIEW THE REVENUE REQUIREMENTS TO ASSURE COMPLIANCE WITH THE APPLICABLE BOND ORDINANCE PROVISIONS.

	<u>YEAR ENDED 6/30/20</u>	<u>PRO FORMA * 6/30/21</u>
REVENUES:		
RETAIL/WHOLESALE WATER SALES	\$ 43,978,419	\$ 46,929,732
CONNECTION FEES/FRONT FOOT FEES	580,227	525,000
BILLABLE TO SDS FUND	2,659,486	2,911,384
OTHER OPERATING REVENUES	1,553,374	1,600,500
INTEREST ON INVESTMENTS	902,755	618,819
MISCELLANEOUS	671,903	656,605
TOTAL REVENUES	<u>\$ 50,346,165</u>	<u>\$ 53,242,040</u>
OPERATING EXPENSES:		
OPERATIONS & MAINTENANCE	\$ 27,862,264	\$ 32,257,396
DEPRECIATION	9,831,819	9,831,819
TOTAL EXPENSES	<u>\$ 37,694,083</u>	<u>\$ 42,089,215</u>
ADDITIONS: DEPRECIATION	<u>9,831,819</u>	<u>9,831,819</u>
NET EARNINGS OF THE SYSTEM	<u>\$ 22,483,901</u>	<u>\$ 20,984,644</u>
DEBT SERVICE		
SERIES 2020 BONDS	\$ -	\$ 683,163
SERIES 2018 BONDS	5,702,600	2,089,350
SERIES 2016 BONDS	2,744,500	2,751,900
SERIES 2015 BONDS	2,254,250	2,247,500
SERIES 2013 BONDS	197,369	214,469
SENIOR LIEN	10,898,719	7,986,382
JUNIOR LIEN **	1,442,812	1,438,462
TOTAL	<u>12,341,531</u>	<u>9,424,844</u>
COVERAGE RATIO - SENIOR DEBT	<u>2.06</u>	<u>2.63</u>
COVERAGE RATIO - ALL DEBT	<u>1.82</u>	<u>2.23</u>

* WATER SALES ADJUSTED FOR RATE REVISIONS OF 2.47% AND 0.62% EFFECTIVE 1/1/20 AND 1/1/21, RESPECTIVELY; OTHER REVENUES AND OPERATIONS & MAINTENANCE EXPENSE PER 2020 FISCAL PLAN, ADJUSTED FOR CARRYFORWARDS.

** AMOUNTS IN PRO FORMA ARE BASED ON MAXIMUM PRINCIPAL AND DO NOT INCLUDE PRINCIPAL FORGIVENESS IF NOT YET FINALIZED.

SUMMARY

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26**

INITIAL SYSTEM REVENUE REQUIREMENTS		\$ 45,762,260
REVENUES FROM CURRENT RATES		
MONTHLY METER CHARGE	\$ 11,657,398	
MONTHLY BILLING CHARGE	3,715,584	
COMMODITY CHARGE	28,942,154	
MONTHLY FIRE PROTECTION	858,028	
ANNUAL HYDRANT CHARGE	<u>48,428</u>	<u>(45,221,592)</u>
INITIAL REQUIRED REVENUE INCREASE (DECREASE)		<u>\$ 540,669.00</u>
INITIAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>1.20%</u>
INITIAL SYSTEM REVENUE REQUIREMENTS FROM ABOVE		\$ 45,762,260
LESS: AMOUNT OF CIRCUIT BREAKER RELIEF TO REDUCE RR's TO RETAIL		(260,317)
SYSTEM REVENUE REQUIREMENTS		<u>\$ 45,501,943</u>
ACTUAL REQUIRED AMOUNT OF REVENUE INCREASE (DECREASE)		<u>\$ 280,352</u>
ACTUAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>0.62%</u>

WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 26

METER SIZE	EQUIV. FACTOR	CITY OF GR		CITY OF WALKER		CITY OF KENTWOOD		CASCADE TWP		GR TWP		TALLMADGE TWP	
		METERS	EQUIV.	METERS	EQUIV.	METERS	EQUIV.	METERS	EQUIV.	METERS	EQUIV.	METERS	EQUIV.
A 3/4" or less	1.0000	53,452	53,452	5,412	5,412	3,667	3,667	2,773	2,773	3,789	3,789	237	237
B 1"	1.7778	2,550	4,533	479	852	655	1,164	380	676	319	567	22	39
C 1 1/4"	2.7778	-	-	-	-	-	-	-	-	-	-	-	-
D 1 1/2"	4.0000	1,235	4,940	246	984	435	1,740	274	1,096	133	532	16	64
E 2"	7.1111	802	5,703	105	747	190	1,351	92	654	40	284	1	7
F 3"	16.0000	115	1,840	13	208	21	336	10	160	10	160	-	-
G 4"	28.4444	77	2,190	8	228	13	370	2	57	3	85	2	57
H 6" and over	64.0000	19	1,216	2	128	2	128	-	-	1	64	-	-
		58,250	73,874	6,265	8,559	4,983	8,756	3,531	5,416	4,295	5,481	278	404
FIRE PROTECTION SERVICE													
H 6"		1,068		244		309		172		99		20	
I 8"		292		85		206		112		21		3	
J 10"		15		6		10		2		-		-	
K 12"		20		19		24		26		1		2	
		1,395		354		549		312		121		25	
TOTAL		59,645		6,619		5,532		3,843		4,416		303	
TOTAL													80,358

Source: City of Grand Rapids, Michigan, Water/Sewer Customer Accounts/Meters Report, dated November 1, 2020.

CITY OF GRAND RAPIDS, MICHIGAN

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS

\$ 26,714,235

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

73,874 meter equivalents x \$ 7.41 x 12 = \$ 6,568,876

MONTHLY BILLING CHARGE

58,250 meters x \$ 3.99 x 12 = 2,789,010

COMMODITY CHARGE

8,317,182 units (100 CF) x \$ 2.04 = 16,967,051

MONTHLY FIRE PROTECTION

401,729

ANNUAL HYDRANT CHARGE

-

(26,726,666)

REQUIRED REVENUE INCREASE (DECREASE)

\$ (12,430)

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES

-0.05%

CITY OF GRAND RAPIDS, MICHIGAN

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 27**

COMMODITY CHARGE:

$$\frac{\text{COMMODITY CHARGE @ 64\%}}{\text{BILLED UNITS}} = \frac{\$17,097,111}{8,317,182} = \underline{\underline{\$ 2.06 /100 \text{ CF}^*}}$$

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS	\$ 26,714,235
NEW COMMODITY CHARGE 8,317,182 x \$ 2.06	\$ 17,133,395
NEW MONTHLY BILLING CHARGE 58,250 x \$ 3.54 x 12	2,474,460
MONTHLY FIRE PROTECTION CHARGE	401,729
ANNUAL HYDRANT CHARGE	-
	<u>(20,009,584)</u>
	<u><u>\$ 6,704,652</u></u>

$$\text{MONTHLY METER CHARGE} = \frac{\$6,704,652}{73,874 \times 12} = \underline{\underline{\$ 7.56 \text{ MONTHLY}}}$$

<u>METER SIZE</u>	<u>EQUIVALENT</u>	<u>MONTHLY SERVICE CHARGE</u>			<u>PRESENT</u>
		<u>METER</u>	<u>BILLING</u>	<u>TOTAL</u>	
3/4" or less	1.0000	\$ 7.56	\$ 3.54	\$ 11.10	\$ 11.40
1"	1.7778	13.44	3.54	16.98	17.16
1 1/4"	2.7778	21.00	3.54	24.54	24.57
1 1/2"	4.0000	30.24	3.54	33.78	33.63
2"	7.1111	53.76	3.54	57.30	56.68
3"	16.0000	120.96	3.54	124.50	122.55
4"	28.4444	215.04	3.54	218.58	214.76
6" and over	64.0000	483.84	3.54	487.38	478.23

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2021

CITY OF WALKER, MICHIGAN

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS* \$ 3,570,305

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

8,559 meter equivalents x \$ 9.65 x 12 = \$ 991,132

MONTHLY BILLING CHARGE

6,265 meters x \$ 3.99 x 12 = 299,968

COMMODITY CHARGE

1,205,579 units (100 CF) x \$ 1.76 = 2,121,819

MONTHLY FIRE PROTECTION

114,678

ANNUAL HYDRANT CHARGE

- (3,527,597)

REQUIRED REVENUE INCREASE (DECREASE)

\$ 42,708

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES

1.21%

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 105,253

CITY OF WALKER, MICHIGAN

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 27**

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 1.78 /100 CF *
 \$ 1.76 x 101.21%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS **	\$ 3,570,305
NEW COMMODITY CHARGE 1,205,579 x \$ 1.78	\$ 2,145,931
NEW MONTHLY BILLING CHARGE 6,265 x \$ 3.54 x 12	266,137
MONTHLY FIRE PROTECTION CHARGE	114,678
ANNUAL HYDRANT CHARGE	<u>-</u> (2,526,746)
	<u><u>\$ 1,043,559</u></u>

MONTHLY METER CHARGE = $\frac{\$1,043,559}{8,559 \times 12}$ = \$ 10.16 MONTHLY

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 10.16	\$ 3.54	\$ 13.70	\$ 13.64
1"	1.7778	18.06	3.54	21.60	21.15
1 1/4"	2.7778	28.22	3.54	31.76	30.80
1 1/2"	4.0000	40.64	3.54	44.18	42.59
2"	7.1111	72.25	3.54	75.79	72.61
3"	16.0000	162.56	3.54	166.10	158.39
4"	28.4444	289.00	3.54	292.54	278.48
6" and over	64.0000	650.24	3.54	653.78	621.59

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2021

**REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 105,253

CITY OF KENTWOOD, MICHIGAN

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS \$ 4,541,347

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

8,756 meter equivalents x \$ 11.61 x 12 = \$ 1,219,886

MONTHLY BILLING CHARGE

4,983 meters x \$ 3.99 x 12 = 238,586

COMMODITY CHARGE

1,742,801 units (100 CF) x \$ 1.63 = 2,840,766

MONTHLY FIRE PROTECTION

187,803

ANNUAL HYDRANT CHARGE

- (4,487,041)

REQUIRED REVENUE INCREASE (DECREASE)

\$ 54,306

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES

1.21%

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 129,136

CITY OF KENTWOOD, MICHIGAN

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 27**

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 1.65 /100 CF *
 \$ 1.63 x 101.21%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS **	\$ 4,541,347
NEW COMMODITY CHARGE 1,742,801 x \$ 1.65	\$ 2,875,622
NEW MONTHLY BILLING CHARGE 4,983 x \$ 3.54 x 12	211,678
MONTHLY FIRE PROTECTION CHARGE	187,803
ANNUAL HYDRANT CHARGE	<u>-</u> (3,275,103)
	<u>\$ 1,266,244</u>

MONTHLY METER CHARGE = $\frac{\$1,266,244}{8,756 \times 12}$ = \$ 12.05 MONTHLY

<u>METER SIZE</u>	<u>EQUIVALENT</u>	<u>MONTHLY SERVICE CHARGE</u>			<u>PRESENT</u>
		<u>METER</u>	<u>BILLING</u>	<u>TOTAL</u>	
3/4" or less	1.0000	\$ 12.05	\$ 3.54	\$ 15.59	\$ 15.60
1"	1.7778	21.42	3.54	24.96	24.63
1 1/4"	2.7778	33.47	3.54	37.01	36.24
1 1/2"	4.0000	48.20	3.54	51.74	50.43
2"	7.1111	85.69	3.54	89.23	86.55
3"	16.0000	192.80	3.54	196.34	189.75
4"	28.4444	342.76	3.54	346.30	334.23
6" and over	64.0000	771.20	3.54	774.74	747.03

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2021
 ** REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 129,136

CASCADE TOWNSHIP
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

SYSTEM REVENUE REQUIREMENTS* \$ 3,557,466

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE			
5,416 meter equivalents	x	\$ 19.32	x 12 = \$ 1,255,645
MONTHLY BILLING CHARGE			
3,531 meters	x	\$ 3.99	x 12 = 169,064
COMMODITY CHARGE			
900,281 units (100 CF)	x	\$ 2.43	= 2,187,683
MONTHLY FIRE PROTECTION			112,987
ANNUAL HYDRANT CHARGE			- <u>(3,725,379)</u>
REQUIRED REVENUE INCREASE (DECREASE)			<u>\$ (167,913)</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u><u>-4.51%</u></u>

CASCADE TOWNSHIP

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 27**

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 2.32 /100 CF *
 \$ 2.43 x 95.49%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS	\$ 3,557,466
NEW COMMODITY CHARGE 900,281 x \$ 2.32	\$ 2,088,652
NEW MONTHLY BILLING CHARGE 3,531 x \$ 3.54 x 12	149,997
MONTHLY FIRE PROTECTION CHARGE	112,987
ANNUAL HYDRANT CHARGE	<u>-</u> <u>(2,351,636)</u>
	<u><u>\$ 1,205,830</u></u>

MONTHLY METER CHARGE = $\frac{\$1,205,830}{5,416 \times 12} = \underline{\underline{\$ 18.55 \text{ MONTHLY}}}$

<u>METER SIZE</u>	<u>EQUIVALENT</u>	<u>MONTHLY SERVICE CHARGE</u>			<u>PRESENT</u>
		<u>METER</u>	<u>BILLING</u>	<u>TOTAL</u>	
3/4" or less	1.0000	\$ 18.55	\$ 3.54	\$ 22.09	\$ 23.31
1"	1.7778	32.98	3.54	36.52	38.34
1 1/4"	2.7778	51.53	3.54	55.07	57.66
1 1/2"	4.0000	74.20	3.54	77.74	81.27
2"	7.1111	131.91	3.54	135.45	141.38
3"	16.0000	296.80	3.54	300.34	313.11
4"	28.4444	527.64	3.54	531.18	553.54
6" and over	64.0000	1,187.20	3.54	1,190.74	1,240.47

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2021

GRAND RAPIDS TOWNSHIP
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

SYSTEM REVENUE REQUIREMENTS* \$ 2,504,974

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE			
5,481 meter equivalents	x	\$ 13.11	x 12 = \$ 862,271
MONTHLY BILLING CHARGE			
4,295 meters	x	\$ 3.99	x 12 = 205,645
COMMODITY CHARGE			
690,588 units (100 CF)	x	\$ 1.99	= 1,374,270
MONTHLY FIRE PROTECTION 32,993			
ANNUAL HYDRANT CHARGE -			
			<u>(2,475,179)</u>
REQUIRED REVENUE INCREASE (DECREASE)			<u>\$ 29,795</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>1.20%</u>

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 25,928

TALLMADGE TOWNSHIP

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS \$ 201,379

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE			
404 meter equivalents	x	\$ 0.51	x 12 = \$ 2,472
MONTHLY BILLING CHARGE			
278 meters	x	\$ 3.99	x 12 = 13,311
COMMODITY CHARGE			
51,962 units (100 CF)	x	\$ 2.98	= 154,847
MONTHLY FIRE PROTECTION 7,839			
ANNUAL HYDRANT CHARGE 48,428			
			<u>(226,896)</u>
REQUIRED REVENUE INCREASE (DECREASE)			<u>\$ (25,517)</u>
INITIAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			-11.25%
ADDITIONAL PERCENTAGE DECREASE OVER EXISTING RATES *			-2.80%
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>-14.05%</u>

* IF REQUIRED, FURTHER REDUCTION OF COMMODITY CHARGE TO ALLOW FOR A POSITIVE MONTHLY METER FEE (SEE TASK 27)

CITY OF EAST GRAND RAPIDS, MICHIGAN

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26**

INTEGRATED SYSTEM REVENUE REQUIREMENTS *		\$	659,929
COMMODITY CHARGE			
(100CF) 559,621 units	x	\$ 1.07	598,794
			<hr/>
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$	<u>61,135</u>
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$	184,008
MONTHLY SERVICE CHARGE			
\$17,849	x	12 MONTHS	214,188
			<hr/>
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$	<u>(30,180)</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>3.81%</u>

* NET OF INTEGRATED CONNECTION FEE CREDIT.

CITY OF EAST GRAND RAPIDS, MICHIGAN

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 27**

SYSTEM REVENUE REQUIREMENTS	\$	843,937
NEW COMMODITY CHARGE *		
559,621 x \$1.18 =		(660,353)
		<hr/>
	\$	<u>183,584</u>

MONTHLY SERVICE CHARGE * = \$ 183,584 / 12 = \$15,299

* NEW RATES EFFECTIVE ON JANUARY 1, 2021

ADA TOWNSHIP
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

INTEGRATED SYSTEM REVENUE REQUIREMENTS *		\$ 794,111
COMMODITY CHARGE		
(100CF) 587,670 units x \$ 1.22		716,957
		716,957
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$ 77,154
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 580,810
MONTHLY SERVICE CHARGE		
\$45,244 x 12 MONTHS		542,928
		542,928
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$ 37,882
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		9.13%

* NET OF INTEGRATED CONNECTION FEE CREDIT.

ADA TOWNSHIP
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 27

SYSTEM REVENUE REQUIREMENTS	\$ 1,374,921
NEW COMMODITY CHARGE *	
587,670 x \$1.35 =	(793,355)
	<hr/>
	<u>\$ 581,566</u>

MONTHLY SERVICE CHARGE * = \$ 581,566 / 12 = \$48,464

* NEW RATES EFFECTIVE ON JANUARY 1, 2021

OTTAWA COUNTY
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

INTEGRATED SYSTEM REVENUE REQUIREMENTS	\$ 2,193,379
COMMODITY CHARGE	
(100CF) 1,736,813 units x \$ 1.14	1,979,967

REQUIRED COMMODITY REVENUE INCREASE (DECREASE)	<u><u>\$ 213,412</u></u>
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS	\$ -
MONTHLY SERVICE CHARGE	
\$0 x 12 MONTHS	-

REQUIRED SERVICE REVENUE INCREASE (DECREASE)	<u><u>\$ -</u></u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES	<u><u>10.78%</u></u>

OTTAWA COUNTY
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 27

SYSTEM REVENUE REQUIREMENTS	\$ 2,193,379
NEW COMMODITY CHARGE *	
1,736,813 x \$1.26 =	(2,188,384)
	<hr/>
	<u>\$ 4,995</u>

MONTHLY SERVICE CHARGE * = \$ 4,995 / 12 = \$416

* NEW RATES EFFECTIVE ON JANUARY 1, 2021

WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RE-EVALUATE FRONT FOOT CHARGES
TASK NO. 28

The City Engineer's Office has reviewed recent construction costs for water facilities and recommends the following front foot assessment rates:

Water User Type	Definition	2020 Rate	2021 Rate	% Change
Domestic	Property is domicile for single or multiple family use, such as homes, apartments, duplexes, condominium, etc.	\$ 100.00	\$ 100.00	0.00%
Commercial - Industrial	Property used to offer services and / or products, such as retail/wholesale stores, gas stations, restaurants, hotels, schools, churches, etc., and manufacturing or processing facilities (industrial).	\$ 140.00	\$ 145.00	3.57%

The above rates are based on an average of prices quoted in bid proposals which have been received by the City Engineer's Office during the period July 1, 2019 through June 30, 2020. Calculations of the rates are on file in the City Engineer's Office.

WATER RATE STUDY
 WATER SUPPLY SYSTEM FUND
 EVALUATE WATER SERVICE CHARGES
 TASK NO. 29

The City Engineer's Office has evaluated the cost for water services and recommends the following water service charges:

Service Size	Year	50' R.O.W.	60' R.O.W.	66' R.O.W.	80' R.O.W.	100' R.O.W.
1" Water Service	2020	\$ 2,900	\$ 3,300	\$ 3,500	\$ 4,100	\$ 4,900
	2021	\$ 3,050	\$ 3,500	\$ 3,750	\$ 4,350	\$ 5,200
1-1/2" Water Service	2020	\$ 3,800	\$ 4,300	\$ 4,500	\$ 5,100	\$ 6,000
	2021	\$ 4,100	\$ 4,600	\$ 4,900	\$ 5,600	\$ 6,600
2" Water Service	2020	\$ 4,400	\$ 4,900	\$ 5,200	\$ 6,000	\$ 7,000
	2021	\$ 4,400	\$ 4,900	\$ 5,200	\$ 6,000	\$ 7,000

The percent increases of the water service pipe charges are as shown below:

Service Size	50' R.O.W.	60' R.O.W.	66' R.O.W.	80' R.O.W.	100' R.O.W.
1" Water Service	5.17%	6.06%	7.14%	6.10%	6.12%
1-1/2" Water Service	7.89%	6.98%	8.89%	9.80%	10.00%
2" Water Service	0.00%	0.00%	0.00%	0.00%	0.00%

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 15, 2020

TO: Jenessa Carter
Acting Utility Financial Officer

FROM: Samarhia Giffel
Administrative Services Officer

SUBJECT: 2020 WATER RATE STUDY TASK #30
FEES, CHARGES, and PENALTIES

Fees, charges, and penalties have been reviewed and determined in accordance with the Water System Rules and Regulations and are approved for use beginning January 1, 2021.

The following are recommended changes in fee amounts, aligned to support resource requirements:

Fire Protection Monthly

- Fee increase of 3.693% for all sizes based on BBI and inflation

Meter Installation and Service On/Off Requests

- Meter installations for all sizes increased 10% (\$55) to account for associated administrative and field work performed

Meter Reading

- Final or Actual Reading increased 9.1% (\$60) to account for associated administrative and field work performed
- Meter Interface Unit Replacement (includes Smart Endpoint) increased 6.45% (\$165) to account for associated administrative and field work performed

Miscellaneous

- Fees increased and aligned to support Engineering resources requirements

Fees, Charges, and Penalties	2020 Fee (\$)	2021 Fee (\$)	% Change
Miscellaneous			
Street Opening Permit (Water/ESD, City Engineering, Streets)	\$300	\$300	0%
Water Inspection Permit (Within City Limits)	\$75	\$80	6.67%
Water Inspection Permit (Outside City Limits)	\$90	\$95	5.56%
Sanitary Service Line Inspection Permit (Within City Limits)	\$75	\$80	6.67%

Sanitary Service Line Inspection Permit (Outside City Limits)	\$90	\$95	5.56%
Storm Service Line Inspection Permit (Within City Limits)	\$75	\$80	6.67%
Storm Service Line Inspection Permit (Outside City Limits)	\$90	\$95	5.56%
Footing Drain Lateral Inspection Permit (Within City Limits)	\$75	\$80	6.67%
Footing Drain Lateral Inspection Permit (Outside City Limits)	\$90	\$95	5.56%
Sewer Lateral Service Demolition/Cap off Inspection Fee (Within City Limits)	\$75	\$80	6.67%
Sewer Later Service Demolition/Cap off Inspection Fee (Outside City Limits)	\$90	\$95	5.56%
Plumbing Service Re-inspection Fee	\$75	\$80	6.67%

Please see the attached fee, charges, and penalties schedule in entirety.

SG

Cc: Wayne Jernberg, Water System Manager
Mike Grenier, Environmental Services Manager
Arden Postma, Hydraulic Engineer
Chad Reul, Utility Field Operations Superintendent

CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
FEES, CHARGES, AND PENALTIES
TASK NO. 30

Fees, Charges, and Penalties	2020 Fee (\$)	2021 Fee (\$)	% Change
Fire Protection Monthly (based on pipe size)			
6"	\$19.60	\$20.32	3.693%
8"	\$34.79	\$36.07	3.693%
10"	\$54.50	\$56.51	3.693%
12"	\$78.42	\$81.32	3.693%

**BBI and Inflation*

Hydrant Use Per Season			
Hydrant Use Permit Fee (Non-Metered Hydrant Connection - Residential Customers)	\$50	\$50	0%
Hydrant Use Permit Fee (Metered Hydrant Connection)	\$300	\$300	0%
Non-Metered Hydrant Connection Use Fee (pool filling per connection)	\$100 (RD) + \$75/week	\$100 (RD) + \$75/week	0%
Metered Hydrant Connection Use Fee * (per connection)	\$500 (RD) + \$25/week	\$500 (RD) + \$25/week	0%

RD=Refundable Deposit

**Plus metered volume (Commodity Charges at City of Grand Rapids Rate)*

A \$100 Services fee applies for all hydrant connection assistance requests

Tapping Permits			
All sizes	\$375	\$375	0%

Meter Installation and Service On/Off Requests			
<i>All non-emergency service requests must be scheduled (normal service Hours 8am - 7pm M-F)</i>			
All sizes	\$50	\$55	10%
Inspection/Repair Scheduled On & Off Request (may also need meter install)	\$70	\$70	0%

Meter Reading			
Final or Actual Reading	\$55	\$60	9.1%
Meter Interface Unit Replacement (includes Smart Endpoint Device)	\$155	\$165	6.45%

Meter Testing			
<i>Meter Testing Fee: Charged and paid by customer prior to test, if test results find the meter to read in error beyond AWWA acceptance and in the benefit of the Water System, the fee will be refunded, and a new meter will be set.</i>			
<i>*In addition to the Meter Testing fee a Service On/Off Requests fee applies.</i>			
¾" and 1"	\$150	\$150	0%
1 ½"	\$200	\$200	0%
2"	\$350	\$350	0%
3"	\$400	\$400	0%
4" or larger	Cost	Cost	0%

Security Deposit			
Minimum Deposit Amount	\$500	\$500	0%

CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
FEES, CHARGES, AND PENALTIES
TASK NO. 30

Fees, Charges, and Penalties

2020 Fee (\$) **2021 Fee (\$)** **% Change**

Meter Replacement (Non-System Planned/Scheduled Replacement)

*Meter Replacement Fee: Charged to customer at time of discovery of a system known meter that requires replacement outside of Water System planned replacement program scheduling as a result of infrastructure loss (Frozen/Missing/Stolen/Damaged), unnecessary replacement, and/or customer request. Customer requested meter replacement requires meter testing prior to approval. *In addition to the Meter Replacement fee a Meter Installation fee applies.*

	2020 Fee (\$)	2021 Fee (\$)	% Change
¾"	\$210	\$210	0%
1"	\$250	\$250	0%

T2 Omni Meter			
	2020 Fee (\$)	2021 Fee (\$)	% Change
1 ½"	\$750	\$750	0%
2"	\$880	\$880	0%
3"	\$1,100	\$1,100	0%
4" or larger	Cost	Cost	0%

C2 Omni Meter			
	2020 Fee (\$)	2021 Fee (\$)	% Change
1 ½"	\$1200	\$1200	0%
2"	\$1385	\$1385	0%
3"	\$1,755	\$1,755	0%
4" or larger	Cost	Cost	0%

Miscellaneous

	2020 Fee (\$)	2021 Fee (\$)	% Change
Street Opening Permit (Water/ESD, City Engineering, Streets)	\$300	\$300	\$300
Water Inspection Permit (Within City Limits)	\$75	\$80	6.67%
Water Inspection Permit (Outside City Limits)	\$90	\$95	5.56%
Sanitary Service Line Inspection Permit (Within City Limits)	\$75	\$80	6.67%
Sanitary Service Line Inspection Permit (Outside City Limits)	\$90	\$95	5.56%
Storm Service Line Inspection Permit (Within City Limits)	\$75	\$80	6.67%
Storm Service Line Inspection Permit (Outside City Limits)	\$90	\$95	5.56%
Footing Drain Lateral Inspection Permit (Within City Limits)	\$75	\$80	6.67%
Footing Drain Lateral Inspection Permit (Outside City Limits)	\$90	\$95	5.56%
Sewer Lateral Service Demolition/Cap off Inspection Fee (Within City Limits)	\$75	\$80	6.67%
Sewer Later Service Demolition/Cap off Inspection Fee (Outside City Limits)	\$90	\$95	5.56%
Plumbing Service Re-inspection Fee	\$75	\$80	6.67%
Cross Connection Re-inspection Fee	\$75	\$75	0%

CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
FEES, CHARGES, AND PENALTIES
TASK NO. 30

Fees, Charges, and Penalties	2020 Fee (\$)	2021 Fee (\$)	% Change
Miscellaneous Cont...			
Irrigation Service Cut/Cap Administrative Fee	\$65	\$65	0%
Delinquent Commercial Backflow Test Fee (Per Device)	\$25	\$25	0%
Hydrant Flow Test	\$200	\$200	0%

Services			
Customer requested on-site service visit (hydrant connection assistance requests, internal plumbing, customer issue)	\$100	\$100	0%

Penalties			
Late Payment Penalty	10% of Net	10% of Net	0%
Return check or payment charge (City Treasurer processing fee)	\$30	\$30	0%
Administrative/Research Fee (Review or processing of account for non-payment, returned payment, shut-off, posting of property, and/or backflow non-compliance) (Documentation creation for account of location information- FOIA request may still be required)	\$55	\$55	0%
Missed Appointment	\$50	\$50	0%
Unauthorized operation, tampering, or removal of any Water or Sanitary Sewer System owned or maintained, valve, asset, infrastructure, or equipment (for example, but not limited to, valves, meters, meter reading equipment, hydrants, and curb stops & box) ** & ***	\$500	\$500	0%
Unauthorized or Illegal connection to any Water or Sanitary Sewer System owned pipe, property, and/or private plumbing system served by the Water and/or Sanitary Sewer System ** & ***	\$500	\$500	0%
Failure to return or return of damaged beyond repair/ repairable hydrant connection equipment	Cost + 10%	Cost + 10%	0%
Repair/Replace damage to a fire hydrant	Cost + 10%	Cost + 10%	0%
Permit infractions/violations ** & ***	\$100	\$100	0%
Unauthorized service tap of Water or Sewer main** & ***	\$500	\$500	0%

**** Plus double the commodity rate for estimated volume and any unbilled readiness to serve charges that may apply**
***** Penalties shall double with each subsequent infraction**

Miscellaneous Damage or Loss			
Any cost recovery due to damage caused or undue oversight of any location, account, or infrastructure of the Water and/or Sanitary Sewer System will be charged in accordance with cost recovery methodology for time and materials, including a 10% administrative charge for processing	Cost + 10%	Cost +10%	0%

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 31**

THERE IS NO TASK 31 FOR THE WATER RATE STUDY.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: August 31, 2020

TO: Jenessa Carter
Acting Utility Financial Officer

FROM: Arden Postma, P.E.
Hydraulic Engineer

SUBJECT: **2020 WATER RATE STUDY- TASK #32, WATER MAIN OVERSIZING RATES**

Water main oversizing rates are established for this year as noted below:

<u>Pipe Size</u>	<u>2019 Rate</u>	<u>2020 Rate</u>	<u>2021 Rate</u>	<u>'20 - '21 % Change</u>
8"-12"	\$26.40/ft	\$27.47/ft	\$27.76/ft	1.1%
12"-16"	\$32.24/ft	\$33.90/ft	\$28.00/ft	-17.4%
8"-16"	\$58.64/ft	\$61.37/ft	\$55.76/ft	-9.1%

These rates have been determined in accordance with the Water System Rules and Regulations, and are approved for use from January 1, 2021 through December 31, 2021. Background information and calculations to establish these rates are on file in the Utility Engineering, Distribution and Collection Office.

These costs will be reviewed and may be adjusted again next year. If you have any questions regarding this matter, please call me at 456-4201.

AP
Cc: Wayne Jernberg
Rick DeVries
Jeff McCaul

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 33**

SERVICE AREA MAPS AND SERVICE AREA LAND MASS SUMMARIES

The following summarizes Utility Services Districts (USD) land mass square miles for UAB partner communities, per information on file as of September 14, 2020 :

UAB Partners	Sq. Miles of USD by CC	Percent
Grand Rapids	45.36	35.042%
Walker	25.48	19.684%
Kentwood	13.50	10.429%
Cascade	21.14	16.331%
Grand Rapids Township	10.93	8.441%
Tallmadge Township	2.46	1.900%
East Grand Rapids	3.37	2.603%
Ada	7.21	5.570%
Total	129.45	100.000%

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 34**

INDIVIDUAL CIRCUIT BREAKER AND CITY & CUSTOMER COMMUNITY CIRCUIT BREAKER

The Third Amendment to the Water and Sanitary Sewer Agreements stipulates penalty fees shall be used to fund the circuit breaker provisions noted above.

The following summarizes those values:

<u>Description</u>	<u>AMOUNT</u>	<u>PERCENT</u>
Individual Circuit Breaker (ICB)*	\$ 117,188	31.04%
City & Customer Community Circuit Breaker (CCCCB)	260,317	68.96%
Total	<u>\$ 377,505</u>	<u>100.00%</u>

The following tables summarize the amount, if any, of the Circuit Breaker to be applied as a revenue credit in next year's Rate Study:

<u>Description</u>	<u>AMOUNT</u>	<u>PERCENT</u>
City & Customer Community Circuit Breaker Amount- Above	\$ 260,317	100.00%
Less: Amount Applied in Current Rate Study	(260,317)	-100.00%
Total CCCCCB Revenue Credit- Next Year's Rate Study	<u>\$ 0</u>	<u>0.00%</u>

*Per City Commission Resolution 84923 adopted on September 8, 2015, the Water and Sanitary Sewer Systems are authorized to utilize non-operating revenue to provide supplemental funding to the ICB. \$117,188 includes \$80,000 of facility rental revenue from fiscal year 2020 to supplement the 2021 ICB.

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ANNUAL RATE REVIEW**

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**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
SYSTEM ADDITIONS AND IMPROVEMENTS
FOR THE YEAR ENDED JUNE 30, 2020
TASKS NO. 1, 2, & 3**

COMMUNITY	LOCAL		TRUNK		INTERCEPTOR		TOTALS	
	FEET	MILES	FEET	MILES	FEET	MILES	FEET	MILES
Grand Rapids								
Construction	20,888	3.96	4,438	0.84	1,564	0.30	26,890	5.10
Abandonment	(597)	(0.11)	(1,313)	(0.25)	(2,620)	(0.50)	(4,530)	(0.86)
CSO Construction	0	0.00	0	0.00	0	0.00	0	0.00
CSO Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>20,291</u>	<u>3.85</u>	<u>3,125</u>	<u>0.59</u>	<u>(1,056)</u>	<u>(0.20)</u>	<u>22,360</u>	<u>4.24</u>
Kentwood								
Construction	0	0.00	0	0.00	0	0.00	0	0.00
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>
Cascade Twp.								
Construction	0	0.00	0	0.00	0	0.00	0	0.00
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>
G.R. Twp.								
Construction	135	0.03	0	0.00	0	0.00	135	0.03
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>135</u>	<u>0.03</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>135</u>	<u>0.03</u>
Tallmadge Twp.								
Construction	0	0.00	0	0.00	0	0.00	0	0.00
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>
Walker								
Construction	0	0.00	0	0.00	0	0.00	0	0.00
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>
Wright Twp								
Construction	0	0.00	0	0.00	0	0.00	0	0.00
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>
TOTAL	<u><u>20,426</u></u>	<u><u>3.88</u></u>	<u><u>3,125</u></u>	<u><u>0.59</u></u>	<u><u>(1,056)</u></u>	<u><u>(0.20)</u></u>	<u><u>22,495</u></u>	<u><u>4.27</u></u>

	CONTRIBUTIONS		
	COMM	OTHER	TOTAL
Integrated	\$ -	\$ -	\$ -
Grand Rapids	609,108	-	609,108
Kentwood	641,719	-	641,719
Cascade Twp.	145,808	-	145,808
Grand Rapids Twp.	-	-	-
Tallmadge Twp.	140,760	-	140,760
Walker	587,859	-	587,859
Wright Twp.	-	-	-
TOTAL	<u><u>\$ 2,125,254</u></u>	<u><u>\$ -</u></u>	<u><u>\$ 2,125,254</u></u>

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
OPERATING EXPENSE ALLOCATION BY GOVERNMENTAL UNIT - TASK #4, PART 2
FISCAL YEAR ENDED JUNE 30, 2020

COST CENTER	EXPENSE BY COST CENTER	INTEGRATED SYSTEM	RETAIL					WHOLESALE							
			CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP		
WASTEWATER TREATMENT	\$ 16,733,777	\$ 16,733,777													
LIFT STATIONS:															
A. INTERCEPTOR	240,027														
B. TRUNK	189,233		97,887				26,510	13,034							
C. LOCAL COLLECTOR	633,972		71,973				156,765	219,889	25,187				31,763		
SEWER LINES:															
A. INTERCEPTOR	243,847		35,214		62,222		6,828								
B. TRUNK	555,567		136,025		128,075		49,384	28,234	14,423						
C. LOCAL COLLECTOR	3,917,172		341,100		380,945		237,185	299,859	44,186						
BULK METERING STATIONS	4,648				1,601								1,814	1,113	
CUSTOMER ACCOUNTING	2,659,486		205,046		170,526		71,593	136,325	9,574						
INDUSTRIAL PRETREATMENT	799,450	799,450													
SUBTOTAL OPERATING EXPENSE	25,977,180	17,533,227	5,395,438	887,245	743,369	548,265	697,341	93,370	54,114	1,814		31,884		1,113	
ADMINISTRATIVE EXPENSE	4,268,668	2,881,127	884,955	145,795	122,153	90,093	114,590	15,343	8,892	298		5,239		183	
TOTAL	\$ 30,245,847	\$ 20,414,354	\$ 6,270,393	\$ 1,033,040	\$ 865,522	\$ 638,358	\$ 811,931	\$ 108,713	\$ 63,006	\$ 2,112	\$ -	\$ 37,123	\$ -	\$ 1,296	
METHOD OF DISTRIBUTION															
WASTEWATER TREATMENT															
A. TREATMENT PLANT	100.000%	100.00%													
B. LIFT & METER STATIONS (1)	100.000%		(13)	(6)	(1)	(10)	(18)	(5)	(1)	(1)	(1)	(2)		(1)	
SEWER LINES:															
TOTAL MILES:	925.48														
A. INTERCEPTOR	100.000%		57,242%	14,441%	25,517%	2,800%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
MILES			27,39	6,91	12,21	1,34									
B. TRUNK LINES	100.000%		35,786%	24,484%	23,053%	8,889%	5,082%	2,596%	0.110%	0.000%	0.000%	0.000%	0.000%	0.000%	
MILES			39,01	26,69	25,13	9,69	5,54	2,83	0.12						
C. LOCAL COLLECTOR	100.000%		62,349%	12,503%	9,725%	6,055%	7,655%	1,128%	0.585%	0.000%	0.000%	0.000%	0.000%	0.000%	
MILES			479,22	96,10	74,75	46,54	58,84	8,67	4,50						
CUSTOMER ACCTG (2)	100.000%		77,700%	7,710%	6,412%	2,692%	5,126%	0.360%	0.306%						
NO. OF METERS			58,502,00	5,828,00	4,847,00	2,035,00	3,875,00	272,00	231,00						
INDUSTRIAL PRETREATMENT	100.000%	100.00%													
ADMINISTRATIVE EXPENSE (3)	100.000%	67.496%	20,731%	3,415%	2,862%	2,111%	2,684%	0.359%	0.208%	0.007%	0.000%	0.123%	0.004%		

NOTES:

- (1) DIRECT COSTS PER SCHEDULE.
- (2) ALLOCATION BASED ON NUMBER OF METERS, INCLUSIVE OF USERS FOR WRIGHT TWP.
- (3) ALLOCATED ON DIRECT OPERATING EXPENSE, ADJUSTED FOR ANY COST ASSIGNABLE EXCLUSIVELY TO GR OR RETAIL COMMUNITIES, IF APPLICABLE.

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED OPERATING EXPENSE ALLOCATION BY COST CENTER - TASK #5, PART 1
FISCAL YEAR ENDED JUNE 30, 2020

Dept-Unit-Fund	ACTIVITY	WASTEWATER TREATMENT PLANT			WASTEWATER LIFT STATIONS			SEWER LINES			BULK METERING STATIONS	CUSTOMER ACCOUNTING	INDUSTRIAL PRETREAT	ADMIN. EXPENSE
		INTERCEPTOR	TRUNK	LOCAL COLLECTOR	INTERCEPTOR	TRUNK	LOCAL COLLECTOR	INTERCEPTOR	TRUNK	LOCAL COLLECTOR				
527 (3000) 70 / 5900	WASTEWATER TREATMENT (LESS 527 - 3040 - 5900)	\$ 17,565,269	\$ 240,027	\$ 189,234	\$ 240,027	\$ 189,234	\$ 633,971				\$ 4,649			
527 (4000) / 4290) 5900	SEWER MAINTENANCE							244,791	557,716	3,932,324				
527 (2000) / 5900	CUSTOMER SERVICE *	3,108,878										3,108,878		
527 (3040) / 5900	INDUSTRIAL PRETREATMENT	803,723										803,723		
527 (1000:10 / 8000) 5900	SUBTOTAL OPERATING EXPENSE ADMINISTRATION	27,280,581	240,027	189,234	633,971	244,791	557,716	244,791	557,716	3,932,324	4,649	3,108,878	803,723	4,210,420
	TOTAL	\$ 31,491,001	\$ 240,027	\$ 189,234	\$ 633,971	\$ 244,791	\$ 557,716	\$ 244,791	\$ 557,716	\$ 3,932,324	\$ 4,649	\$ 3,108,878	\$ 803,723	\$ 4,210,420

* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

METHOD OF DISTRIBUTION

527 (3000:70) / 5900	WASTEWATER TREATMENT	100.000%												
	A. TREATMENT PLANT	94.269%												
	B. LIFT & METER STATIONS	5.731%	(1)	(8)	(45)						(4)			
527 (4000) / 4290) 5900	SEWER MAINTENANCE													
	TOTAL MILES	925.48												
	A. INTERCEPTOR MILES	47.85						5.170%						
	B. TRUNK LINES MILES	109.01						11.779%						
	C. LOCAL COLLECTOR MILES	768.62						83.051%		83.051%				
527 (2000) / 5900	CUSTOMER SERVICE	100.000%										100.000%		
527 (3040) / 5900	INDUSTRIAL PRETREATMENT	100.000%											100.000%	
527 (1000:10 / 8000) 5900	ADMINISTRATION	100.000%												100.000%

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED OPERATING EXPENSE ALLOCATION BY GOVERNMENTAL UNIT - TASK #5, PART 2
FISCAL YEAR ENDED JUNE 30, 2020

COST CENTER	ADJUSTED EXPENSE BY COST CENTER	INTEGRATED SYSTEM	RETAIL					WHOLESALE						
			CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP	
WASTEWATER TREATMENT	\$ 17,565,269	\$ 17,565,269												
LIFT STATIONS:														
A. INTERCEPTOR	240,027													
B. TRUNK	189,234		97,888				26,510	13,034						
C. LOCAL COLLECTOR	633,971		71,973				156,764	219,890	25,187				31,763	
SEWER LINES:														
A. INTERCEPTOR	244,791		35,350		62,463		6,854							
B. TRUNK	557,716		136,551		128,570		49,575	28,343	14,478	613				
C. LOCAL COLLECTOR	3,932,324		491,658		382,418		238,102	301,019	44,357	23,004				
BULK METERING STATIONS	4,649				1,601								1,814	1,113
CUSTOMER ACCOUNTING	3,108,878		239,694		199,341		83,691	159,361	11,192	9,513				
INDUSTRIAL PRETREATMENT	803,723	803,723												
SUBTOTAL OPERATING EXPENSE	27,280,581	18,368,992		1,073,114	774,393		561,496	721,647	95,214	55,580			31,884	1,113
ADMINISTRATIVE EXPENSE	4,210,420	2,835,026		165,622	119,518		86,660	111,377	14,695	8,578			4,921	172
TOTAL	\$ 31,491,001	\$ 21,204,018		\$ 1,238,736	\$ 893,911		\$ 648,156	\$ 833,024	\$ 109,909	\$ 64,158			\$ 36,805	\$ 1,285

METHOD OF DISTRIBUTION

WASTEWATER TREATMENT															
A. TREATMENT PLANT	100.000%	100.000%													
B. LIFT & METER STATIONS (1)	100.000%														
NO. OF STATIONS	(58)	(13)	(6)	(1)	(1)	(10)	(18)	(5)	(1)	(1)	(1)	(2)	(1)		
SEWER LINES:															
TOTAL MILES:	925.48														
A. INTERCEPTOR	100.000%	57,242%	14,441%	25,517%	2,800%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
MILES	47.85	27.39	6.91	12.21	1.34										
B. TRUNK LINES	100.000%	35,786%	24,484%	23,063%	8,889%	5,082%	5,082%	2,596%	0.110%	0.110%	0.000%	0.000%	0.000%	0.000%	
MILES	109.01	39.01	26.69	25.13	9.69	5.54	5.54	2.83	0.12	0.12	0.000%	0.000%	0.000%	0.000%	
C. LOCAL COLLECTOR	100.000%	62,349%	12,503%	9,725%	6,055%	7,655%	58.84	1,128%	0.585%	0.585%	0.000%	0.000%	0.000%	0.000%	
MILES	768.62	479.22	96.10	74.75	46.54	8.67	4.50	8.67	4.50	4.50					
CUSTOMER ACCTG (2)		77,394%	7,710%	6,412%	2,692%	5,126%		0.360%	0.360%	0.360%					
NO. OF METERS	75,590.00	58,502.00	5,828.00	4,847.00	2,035.00	3,875.00		272.00	231.00	231.00					
INDUSTRIAL PRETREATMENT	100.000%														
ADMINISTRATIVE EXPENSE (3)	100.000%	20,510%	3,934%	2,839%	2,058%	2,645%		0.349%	0.204%	0.204%			0.117%	0.004%	

NOTES:

- (1) ADJUSTED DIRECT COSTS PER SCHEDULE.
- (2) ALLOCATION BASED ON NUMBER OF METERS, INCLUSIVE OF USERS FOR WRIGHT TWP
- (3) ALLOCATED ON DIRECT OPERATING EXPENSE, ADJUSTED FOR ANY COST ASSIGNABLE EXCLUSIVELY TO GR OR RETAIL COMMUNITIES, IF APPLICABLE.

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2020
RATE STUDY- TASKS NO. 4 & 5 SUPPORT

ORGANIZATIONAL UNIT: ADMINISTRATION

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 275,052.20	\$ 11,098.36	\$ 286,150.56
7055	TIME & ONE-HALF	1,175.79	47.44	1,223.23
7105	EMPLOYERS SOCIAL SECURITY	19,360.83	781.21	20,142.04
7110	HOSPITALIZATION INSURANCE	45,141.64	(5,502.77)	39,638.87
7115	RETIREE HEALTH CARE	22,354.07	(6,183.14)	16,170.93
7120	RETIREMENT FUND CONTRIBUTION	59,166.68	4,372.42	63,539.10
7135	UNEMPLOYMENT COMPENSATION	378.28	-	378.28
	TOTAL PERSONAL SERVICES	<u>422,629.49</u>	<u>4,613.52</u>	<u>427,243.01</u>
7520	SUPPLIES	6,442.32	-	6,442.32
7800	INVENTORY - COST OF GOODS SOLD	(39,856.10)	-	(39,856.10)
	TOTAL SUPPLIES	<u>(33,413.78)</u>	<u>-</u>	<u>(33,413.78)</u>
7175	FOOD/CLEAN/CAR ALLOW	2,802.00	-	2,802.00
7910	SUBSCRIPTIONS AND PUBLICATIONS	797.50	-	797.50
8010	CONTRACTUAL SERVICES	261,990.19	-	261,990.19
8011	CONTRACT EMPLOYEES - TEMP SERVICES	2,890.38	-	2,890.38
8030	ADMINISTRATIVE SERVICES	95,439.64	(95,439.64)	-
8240	FEES	276.50	-	276.50
8400	INSURANCE PREMIUMS	229,411.00	-	229,411.00
8450	GENERAL LIABILITY INSURANCE/CLAIMS	384,815.00	(5,872.00)	378,943.00
8500	TELEPHONE	849.77	-	849.77
9000	PRINTING & PUBLISHING	448.49	-	448.49
9010	ADVERTISING - ANY MEDIA	314.42	-	314.42
9100	PROFESSIONAL DEVELOPMENT	427.50	-	427.50
9110	OTHER TRAVEL & TRAINING	2,128.97	-	2,128.97
9130	LOCAL BUSINESS EXPENSE	1,052.06	-	1,052.06
9150	MEMBERSHIPS	26,511.66	-	26,511.66
9410	EQUIPMENT RENTALS OR LEASE	105.35	-	105.35
9430	BUILDINGS RENTALS OR LEASE	29,495.88	-	29,495.88
9460	ENGINEERING SERVICES	9,462.50	-	9,462.50
9470	VEHICLE USAGE/CAR MILAGE	5,968.25	-	5,968.25
9480	COMPUTER SERVICES	17,112.00	230.00	17,342.00
	TOTAL OTHER SERVICES & CHARGES	<u>1,072,299.06</u>	<u>(101,081.64)</u>	<u>971,217.42</u>
9760	EQUIPMENT	2,839.12	-	2,839.12
9880	CONSTRUCTION IN PROGRESS	2,129,420.84	-	2,129,420.84
	TOTAL CAPITAL	<u>2,132,259.96</u>	<u>-</u>	<u>2,132,259.96</u>
9510	A-87 COST ALLOCATION	674,893.00	38,220.00	713,113.00
	TOTAL TRANSFERS/FEES	<u>674,893.00</u>	<u>38,220.00</u>	<u>713,113.00</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 4,268,667.73</u>	<u>\$ (58,248.12)</u>	<u>\$ 4,210,419.61</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2020
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: SDSF - CUST.SERV'S

<u>EXPENDITURE SUB-OBJECT</u>		<u>OPERATING</u>	<u>ADJUSTED</u>	<u>ADJUSTED</u>
<u>OBJ</u>	<u>DESCRIPTION</u>	<u>EXPENSES</u>	<u>COST</u>	<u>CURRENT</u>
			<u>FACTORS</u>	<u>ANNUAL</u>
				<u>EXPENSES</u>
9512	UTILITY CUSTOMER SERVICE	2,659,486.00	\$ 449,391.68	\$ 3,108,877.68
	TOTAL OTHER SERVICES & CHARGES	<u>2,659,486.00</u>	<u>449,391.68</u>	<u>3,108,877.68</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 2,659,486.00</u>	<u>\$ 449,391.68</u>	<u>\$ 3,108,877.68</u>

* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2020
RATE STUDY- TASKS NO. 4 & 5 SUPPORT

ORGANIZATIONAL UNIT: WASTEWATER

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 3,993,221.86	\$ 161,126.50	\$ 4,154,348.36
7025	ACT.ASSIGNMENT	17,161.13	692.45	17,853.58
7040	TEMPORARY EMPLOYEES	15,260.80	615.77	15,876.57
7050	REGULAR HOURLY RATE	4,821.82	194.56	5,016.38
7055	TIME & ONE-HALF	137,666.07	5,554.83	143,220.90
7105	EMPLOYERS SOCIAL SECURITY	298,809.27	12,056.95	310,866.22
7110	HOSPITALIZATION INSURANCE	921,259.28	(112,301.51)	808,957.77
7115	RETIREE HEALTH CARE	330,224.06	(91,339.97)	238,884.09
7120	RETIREMENT FUND CONTRIBUTION	874,953.68	64,659.08	939,612.76
7135	UNEMPLOYMENT COMPENSATION	6,062.20	-	6,062.20
7165	SHIFT DIFFERENTIAL	13,146.10	-	13,146.10
	TOTAL PERSONAL SERVICES	<u>6,612,586.27</u>	<u>41,258.66</u>	<u>6,653,844.93</u>
7520	SUPPLIES	1,172,281.85	-	1,172,281.85
7530	PROCESS CHEMICALS	432,730.98	-	432,730.98
7670	CLOTHING/CLEANING ALLOWANCE	1,357.40	-	1,357.40
8510	POSTAGE	284.68	-	284.68
	TOTAL SUPPLIES	<u>1,606,654.91</u>	<u>-</u>	<u>1,606,654.91</u>
7910	PUBLICATIONS AND SUBSCRIPTIONS	69.95	-	69.95
8010	CONTRACTUAL SERVICES	6,145,805.16	851,008.71	6,996,813.87
8011	CONTRACT EMPLOYEES - TEMP SERVICES	192,817.57	-	192,817.57
8240	FEES	20,342.33	-	20,342.33
8500	TELEPHONE	46,865.42	-	46,865.42
9000	PRINTING & PUBLISHING	3,373.17	-	3,373.17
9010	ADVERTISING - ANY MEDIA	3,750.00	-	3,750.00
9100	PROFESSIONAL DEVELOPMENT	5,272.39	-	5,272.39
9110	OTHER TRAVEL & TRAINING	41,309.89	-	41,309.89
9130	LOCAL BUSINESS EXPENSE	432.49	-	432.49
9131	FOOD-BEVERAGE	106.74	-	106.74
9150	MEMBERSHIPS	27,835.00	-	27,835.00
9180	WATER	85,959.52	-	85,959.52
9190	REFUSE COLLECTION CHARGES	149.82	-	149.82
9200	ELECTRICITY	2,112,532.58	(58,174.00)	2,054,358.58
9210	NATURAL GAS	183,996.28	-	183,996.28
9310	EQUIPMENT REPAIRS	3,126.86	-	3,126.86
9330	SOFTWARE MAINTENANCE AGREEMENTS	73,263.00	-	73,263.00
9410	EQUIPMENT RENTALS OR LEASE	36,601.73	-	36,601.73
9440	FLEET MANAGEMENT EQUIPMENT	240,445.70	-	240,445.70
9450	311 CALL CENTER SERVICES	4,877.00	-	4,877.00
9470	VEHICLE USAGE/CAR MILAGE	4,884.93	-	4,884.93
9480	COMPUTER SERVICES	290,740.00	(2,601.00)	288,139.00
	TOTAL OTHER SERVICES & CHARGES	<u>9,524,557.53</u>	<u>790,233.71</u>	<u>10,314,791.24</u>
9760	EQUIPMENT	6,405.30	-	6,405.30
9800	FURNITURE	50,826.61	-	50,826.61
9840	SOFTWARE	627.10	-	627.10
	TOTAL CAPITAL	<u>57,859.01</u>	<u>-</u>	<u>57,859.01</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 17,801,657.72</u>	<u>\$ 831,492.37</u>	<u>\$ 18,633,150.09</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2020
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: IND. PRETREATMENT

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 456,640.12	\$ 18,425.43	\$ 475,065.55
7025	ACT.ASSIGNMENT	1,821.82	73.51	1,895.33
7055	TIME & ONE-HALF	1,405.97	56.73	1,462.70
7105	EMPLOYERS SOCIAL SECURITY	33,654.80	1,357.97	35,012.77
7110	HOSPITALIZATION INSURANCE	102,562.41	(12,502.36)	90,060.05
7115	RETIREE HEALTH CARE	38,949.34	(10,773.39)	28,175.95
7120	RETIREMENT FUND CONTRIBUTION	103,312.82	7,634.82	110,947.64
7135	UNEMPLOYMENT COMPENSATION	637.15	-	637.15
	TOTAL PERSONAL SERVICES	<u>738,984.43</u>	<u>4,272.71</u>	<u>743,257.14</u>
7520	SUPPLIES	3,220.28	-	3,220.28
8510	POSTAGE	4,044.00	-	4,044.00
	TOTAL SUPPLIES	<u>7,264.28</u>	<u>-</u>	<u>7,264.28</u>
8010	CONTRACTUAL SERVICES	7,773.30	-	7,773.30
8500	TELEPHONE	144.96	-	144.96
9110	OTHER TRAVEL & TRAINING	695.00	-	695.00
9310	EQUIPMENT REPAIRS	1,070.00	-	1,070.00
9460	ENGINEERING SERVICES	27,040.65	-	27,040.65
	TOTAL OTHER SERVICES & CHARGES	<u>36,723.91</u>	<u>-</u>	<u>36,723.91</u>
9760	EQUIPMENT	3,987.56	-	3,987.56
9840	SOFTWARE	12,490.00	-	12,490.00
	TOTAL CAPITAL	<u>16,477.56</u>	<u>-</u>	<u>16,477.56</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 799,450.18</u>	<u>\$ 4,272.71</u>	<u>\$ 803,722.89</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2020
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: REPAIR & MAINTENANCE

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST FACTORS	CURRENT ANNUAL EXPENSES
7020	PERMANENT EMPLOYEES	\$ 1,512,783.57	\$ 61,040.82	\$ 1,573,824.39
7025	ACT.ASSIGNMENT	4,422.08	178.43	4,600.51
7040	TEMPORARY EMPLOYEES	546.88	22.07	568.95
7050	REGULAR HOURLY RATE	177.68	7.17	184.85
7055	TIME & ONE-HALF	142,937.16	5,767.51	148,704.67
7105	EMPLOYERS SOCIAL SECURITY	117,751.58	4,751.28	122,502.86
7110	HOSPITALIZATION INSURANCE	368,221.81	(44,886.24)	323,335.57
7115	RETIREE HEALTH CARE	126,165.66	(34,897.42)	91,268.24
7120	RETIREMENT FUND CONTRIBUTION	334,295.00	24,704.40	358,999.40
7135	UNEMPLOYMENT COMPENSATION	2,078.89	-	2,078.89
7165	SHIFT DIFFERENTIAL	817.30	-	817.30
	TOTAL PERSONAL SERVICES	<u>2,610,197.61</u>	<u>16,688.02</u>	<u>2,626,885.63</u>
7520	SUPPLIES	240,637.79	-	240,637.79
7670	CLOTHING/CLEANING ALLOWANCE	11,563.10	-	11,563.10
	TOTAL SUPPLIES	<u>252,200.89</u>	<u>-</u>	<u>252,200.89</u>
7175	FOOD/CLEAN/CAR ALLOW	50.00	-	50.00
8010	CONTRACTUAL SERVICES	601,886.89	-	601,886.89
8040	HOME REPAIRS	44,838.00	-	44,838.00
8500	TELEPHONE	35,130.92	-	35,130.92
9100	PROFESSIONAL DEVELOPMENT	1,723.68	-	1,723.68
9180	WATER	398.87	-	398.87
9340	MAINTENANCE SERVICE	1,211.06	-	1,211.06
9400	LAND RENTAL OR LEASE	5,945.96	-	5,945.96
9410	EQUIPMENT RENTALS OR LEASE	87,129.07	-	87,129.07
9440	FLEET MANAGEMENT EQUIPMENT	902,501.12	-	902,501.12
9450	311 CALL CENTER SERVICES	13,459.00	-	13,459.00
9470	VEHICLE USAGE/CAR MILAGE	2,388.00	-	2,388.00
9480	COMPUTER SERVICES	116,304.00	1,557.00	117,861.00
	TOTAL OTHER SERVICES & CHARGES	<u>1,812,966.57</u>	<u>1,557.00</u>	<u>1,814,523.57</u>
9760	EQUIPMENT	41,220.71	-	41,220.71
	TOTAL CAPITAL	<u>41,220.71</u>	<u>-</u>	<u>41,220.71</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 4,716,585.78</u>	<u>\$ 18,245.02</u>	<u>\$ 4,734,830.80</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2020
RATE STUDY- TASKS NO. 4 & 5**

ORGANIZATIONAL SUMMARY

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
NO.	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				CURRENT
7020	PERMANENT EMPLOYEES	\$ 6,237,697.75	\$ 251,691.11	\$ 6,489,388.86
7025	ACT.ASSIGNMENT	23,405.03	944.39	24,349.42
7040	TEMPORARY EMPLOYEES	15,807.68	637.84	16,445.52
7050	REGULAR HOURLY RATE	4,999.50	201.73	5,201.23
7055	TIME & ONE-HALF	283,184.99	11,426.51	294,611.50
7105	EMPLOYERS SOCIAL SECURITY	469,576.48	18,947.41	488,523.89
7110	HOSPITALIZATION INSURANCE	1,437,185.14	(175,192.88)	1,261,992.26
7115	RETIREE HEALTH CARE	517,693.13	(143,193.92)	374,499.21
7120	RETIREMENT FUND CONTRIBUTION	1,371,728.18	101,370.72	1,473,098.90
7135	UNEMPLOYMENT COMPENSATION	9,156.52	-	9,156.52
7165	SHIFT DIFFERENTIAL	13,963.40	-	13,963.40
	TOTAL PERSONAL SERVICES	<u>10,384,397.80</u>	<u>66,832.91</u>	<u>10,451,230.71</u>
7520	SUPPLIES	1,422,582.24	-	1,422,582.24
7530	PROCESS CHEMICALS	432,730.98	-	432,730.98
7670	CLOTHING/CLEANING ALLOWANCE	12,920.50	-	12,920.50
7800	INVENTORY - COST OF GOODS SOLD	(39,856.10)	-	(39,856.10)
8510	POSTAGE	4,328.68	-	4,328.68
	TOTAL SUPPLIES	<u>1,832,706.30</u>	<u>-</u>	<u>1,832,706.30</u>
7175	FOOD/CLEAN/CAR ALLOW	2,852.00	-	2,852.00
7910	SUBSCRIPTIONS AND PUBLICATIONS	867.45	-	867.45
8010	CONTRACTUAL SERVICES	7,017,455.54	851,008.71	7,868,464.25
8011	CONTRACT EMPLOYEES - TEMP SERVICES	195,707.95	-	195,707.95
8030	ADMINISTRATIVE SERVICES	95,439.64	(95,439.64)	-
8040	HOME REPAIRS	44,838.00	-	44,838.00
8240	FEES	20,618.83	-	20,618.83
8400	INSURANCE PREMIUMS	229,411.00	-	229,411.00
8450	GENERAL LIABILITY INSURANCE/CLAIMS	384,815.00	(5,872.00)	378,943.00
8500	TELEPHONE	82,991.07	-	82,991.07
9000	PRINTING & PUBLISHING	3,821.66	-	3,821.66
9010	ADVERTISING - ANY MEDIA	4,064.42	-	4,064.42
9100	PROFESSIONAL DEVELOPMENT	7,423.57	-	7,423.57
9110	OTHER TRAVEL & TRAINING	44,133.86	-	44,133.86
9130	LOCAL BUSINESS EXPENSE	1,484.55	-	1,484.55
9131	FOOD-BEVERAGE	106.74	-	106.74
9150	MEMBERSHIPS	54,346.66	-	54,346.66
9180	WATER	86,358.39	-	86,358.39
9190	REFUSE COLLECTION CHARGES	149.82	-	149.82
9200	ELECTRICITY	2,112,532.58	(58,174.00)	2,054,358.58
9210	NATURAL GAS	183,996.28	-	183,996.28
9310	EQUIPMENT REPAIRS	4,196.86	-	4,196.86
9330	SOFTWARE MAINTENANCE AGREEMENTS	73,263.00	-	73,263.00
9340	MAINTENANCE SERVICE	1,211.06	-	1,211.06
9400	LAND RENTAL OR LEASE	5,945.96	-	5,945.96
9410	EQUIPMENT RENTALS OR LEASE	123,836.15	-	123,836.15
9430	BUILDINGS RENTALS OR LEASE	29,495.88	-	29,495.88
9440	FLEET MANAGEMENT EQUIPMENT	1,142,946.82	-	1,142,946.82
9450	311 CALL CENTER SERVICES	18,336.00	-	18,336.00
9460	ENGINEERING SERVICES	36,503.15	-	36,503.15
9470	VEHICLE USAGE/CAR MILAGE	13,241.18	-	13,241.18
9480	COMPUTER SERVICES	424,156.00	(814.00)	423,342.00
9512	UTILITY CUSTOMER SERVICE	2,659,486.00	449,391.68	3,108,877.68
	TOTAL OTHER SERVICES & CHARGES	<u>15,106,033.07</u>	<u>1,140,100.75</u>	<u>16,246,133.82</u>
9760	EQUIPMENT	54,452.69	-	54,452.69
9800	FURNITURE	50,826.61	-	50,826.61
9840	SOFTWARE	13,117.10	-	13,117.10
9880	CONSTRUCTION IN PROGRESS	2,129,420.84	-	2,129,420.84
	TOTAL CAPITAL	<u>2,247,817.24</u>	<u>-</u>	<u>2,247,817.24</u>
9510	A-87 COST ALLOCATION	674,893.00	38,220.00	713,113.00
	TOTAL TRANSFERS/FEES	<u>674,893.00</u>	<u>38,220.00</u>	<u>713,113.00</u>
	GRAND TOTAL- EXPENDITURES	<u>\$ 30,245,847.41</u>	<u>\$ 1,245,153.66</u>	<u>\$ 31,491,001.07</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 21, 2020

TO: Molly J. Clarin
Chief Financial Officer

FROM: Jenessa B. Carter
Acting Utility Financial Officer

**SUBJECT: 2020 SEWER RATE STUDY TASK #4
FY20 OPERATING EXPENSES - SEWAGE PUMPING STATIONS**

The attached schedule allocates the direct cost for operating and maintaining system lifting and metering stations. The operating expense consists of direct labor, utilities, operating and maintenance supplies, repairs and maintenance, and equipment rental.

The overflow regulators are components of the integrated system and subsequently not included herein.

Attachment

JBC:jbc

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE PUMPING STATIONS OPERATING COSTS
FOR THE YEAR ENDED JUNE 30, 2020**

<u>Station</u>	<u>Physical Location</u>	<u>Type</u>	<u>FY2020 5900 Expenses</u>
Market Avenue Pump Station	Grand Rapids	Interceptor	\$240,026.78
Millbank Lift Station	Grand Rapids	Local	\$2,705.61
Eastlake Lift Station	Grand Rapids	Local	\$21,172.11
Eastern Lift Station	Grand Rapids	Trunk	\$5,128.09
Oak Hollow Lift Station	Grand Rapids Twosp	Local	\$6,184.66
Kingsbury Lift Station	Walker	Trunk	\$27,212.17
Bona Vista Lift Station	Grand Rapids	Trunk	\$14,001.15
Aberdeen Lift Station	Grand Rapids	Local	\$11,514.88
O'Brien Lift Station	Walker	Trunk	\$60,915.61
Leonard Heights Lift Station	Walker	Trunk	\$9,759.59
Guild Lift Station	Grand Rapids	Local	\$12,684.15
Orchard Vista Lift Station	Cascade Twosp	Local	\$21,494.60
Brookview Lift Station	Grand Rapids	Trunk	\$32,673.08
Remembrance Road Lift Station	Walker	Local	\$46,004.16
Kraft Avenue Lift Station	Cascade Twosp	Local	\$32,152.20
Thornapple Lift Station	Cascade Twosp	Trunk	\$26,509.95
Thornhills Lift Station	Cascade Twosp	Local	\$24,783.32
Greenbrier Lift Station	Grand Rapids Twosp	Local	\$23,004.74
Shore Haven Lift Station	Grand Rapids Twosp	Local	\$21,356.45
Ada Lift Station	Ada	Local	\$31,762.99
Robinhood Lift Station	Grand Rapids Twosp	Local	\$9,326.37
Lincoln School Lift Station	Grand Rapids Twosp	Local	\$22,458.51
Reeds Lake Blvd. Lift Station	Grand Rapids Twosp	Local	\$9,774.03
6000 28th Street Lift Station	Cascade Twosp	Local	\$22,688.75
Ada Meter Station	Ada	Meter	\$120.58
East Grand Rapids Meter Station	East Grand Rapids	Meter	\$1,814.13
Rickman Avenue Lift Station	Grand Rapids	Local	\$22,879.34
Michigan Street Lift Station	Grand Rapids	Local	\$5,301.73
Eagle Crest Lift Station	Grand Rapids Twosp	Local	\$26,104.31
East Paris Lift Station	Grand Rapids Twosp	Local	\$30,880.37
Alpine Estates Lift Station	Walker	Local	\$22,456.12
Elmdale Lift Station	Grand Rapids	Local	\$3,345.19
Collindale Lift Station	Walker	Local	\$3,512.91
Bird Avenue Lift Station	Grand Rapids Twosp	Local	\$20,088.93
Valentine Lift Station	Grand Rapids Twosp	Local	\$2,207.15
Cascade Springs Lift Station	Cascade Twosp	Local	\$7,336.84
Churchill Downs Lift Station	Grand Rapids	Local	\$21,167.45
Woodsboro Court Lift Station	Grand Rapids Twosp	Local	\$1,882.42
Meadowood Trails Lift Station	Cascade Twosp	Local	\$19,236.36
Gaines Township Meter Station	Gaines Township	Meter	\$1,112.67
Kentwood Meter Station	Kentwood	Meter	\$1,600.90
Stonebridge Lift Station	Grand Rapids Twosp	Local	\$4,813.04
Burton/Cacade Lift Station	Cascade Twosp	Local	\$17,270.84
Crahen Lift Station	Grand Rapids Twosp	Local	\$5,423.51
Jonathan Woods Lift Station	Cascade Twosp	Local	\$5,400.42
Watermark Lift Station	Cascade Twosp	Local	\$6,401.27
Mountain Ash Lift Station	Tallmadge Twosp	Local	\$4,254.32
Reeds Hollow Lift Station	Grand Rapids Twosp	Local	\$7,884.54
Celebration Village Lift Station	Grand Rapids Twosp	Trunk	\$13,033.81
Saddleback Lift Station	Grand Rapids Twosp	Local	\$10,060.58
Arbor Hills Lift Station	Grand Rapids Twosp	Local	\$9,629.90
16th Avenue Lift Station	Marne	Local	\$22,450.21
Hayes West Lift Station	Wright TWP	Local	\$7,174.69
Hayes East Lift Station	Wright TWP	Local	\$2,522.28
Cypress Trails Lift Station	Grand Rapids Twosp	Local	\$8,809.59
8th & Leonard Lift Station	Tallmadge Twosp	Local	\$6,526.90
Summit Ridge Lift Station	Grand Rapids	Local	\$5,174.34
Lake Michigan Estates	Tallmadge Twosp	Local	\$4,708.90

\$1,067,880.49

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 25, 2020

TO: Jenessa Carter
Acting Utility Financial Officer

FROM: Molly Clarin 
Chief Financial Officer

**SUBJECT: 2020 SEWER RATE STUDY TASK #5
KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY20 operating costs are listed below.

Expense Object – 7060, 7020, 7040, 7055, 7025, 7045, 7050, 7030, 7035, 7190

Per the most recent labor negotiations GREIU and APA wages were increased by 2.75% and 2.50% in FY2021 and FY2022, respectively. After converting these increases from a 2020 fiscal year to a 2021 calendar year basis, the result is a 4.035% factor for both GREIU and APA employees. There were no lump sum payments that needed to be factored into the calculation. A blended rate was then computed by weighting the calendar year percentages according to the percentage of Sewer Fund employees in each union (77% GREIU and 23% APA). Executive and non-reps amounted to only 2.3% of the population and were therefore excluded. **The wage increase factor to translate FY2020 actual costs to estimated calendar 2021 will be 4.035% [4.035 X 77% + 4.035 X 23%].**

Expense Object – 9480/8450/9510

Adjust FY2020 actual cost to reflect adjustments in charges for central services rendered by the Information Technology Fund (data charges), the Insurance Payment Fund (workers compensation and general liability) and the General Operating Fund (cost allocation). The “Exhibit” workbook (inclusive of cost center allocations) maintained by the Budget Office has been utilized to blend FY2021 and FY2022 budget amounts thus arriving at an estimated 2021 calendar year rate as follows:

9480-Data Charges			
Dept.-Unit-Fund	FY2021 Request	FY2022 Forecast	Calendar 2021 Estimate
527-1000-5900	\$17,016	\$17,668	\$17,342
527-3000-5900	\$282,717	\$293,561	\$288,139
527-4010-5900	\$115,643	\$120,079	\$117,861
Total	\$415,376	\$431,308	\$423,342

8450-General Liability Insurance			
Cost Center	FY2021 Request	FY2022 Forecast	Calendar 2021 Estimate
527-1000-5900	\$375,191	\$382,695	\$378,943

9510-Contributions to Other Funds (Cost Allocation)			
Cost Center	FY2021 Request	FY2022 Forecast	Calendar 2021 Estimate
527-1000-5900	\$726,707	\$699,519	\$713,113

Expense Object - 7105

Increase FY2020 actual FICA expense by 4.035% consistent with the known wage impacts detailed above.

Expense Object - 7110

The calendar 2021 Trend Report is not completed at this time. However, favorable health insurance cost trends were anticipated in calendar 2020 mainly due to decreases in costs associated with the City entering a contract with a new third-party health insurance plan administrator. Additionally, three-year smoothing of plan gains or losses is more favorable for calendar 2021 rates than it was for calendar 2020 rates (and slightly less favorable for calendar 2022 rates). Smoothing favorable trends has contributed to limiting projected annual increases in health insurance costs or has provided for further decreases when applicable. **Decrease FY2020 health insurance actual by 12.19% to reflect these anticipated rate changes.**

The projected FY21 (\$14,599.38) and FY22 (\$16,105.87) health insurance rates were blended into a 2021 calendar year rate and divided by the FY2020 base amount (\$17,483.42) to arrive at the decrease factor [(((((\$14,599.38 + \$16,105.87) / 2)) / \$17,483.42) - 1) * 100].

Expense Object - 7115

Retiree health care (“RHC”) rates are projected to trend considerably down in FY2021 (to 5.96%) and FY2022 (to 5.93%) from a base year rate of 8.55% in FY2020. This decrease is slightly offset by the projected wage adjustments discussed above (lump sum payments, if any, are not subject to RHC). The Sewer Fund did not have an OPEB adjustment in FY2020 due to changes resulting from the prior implementation of GASB Statement No. 75.

The RHC factor after consideration of the above rate and wage adjustments is 72.34% (or a decrease of 27.66%) for both GREIU and APA members. These factors are then weighted in accordance with union membership within the Sewer Fund $[(-27.66 * 77\%) + (-27.66 * 23\%)]$.

The factor to establish calendar year 2021's retiree health care cost is -27.66%.
Decrease the total of fiscal year 2020's retiree health care by this percent to establish the cost for calendar year 2021.

Expense Object - 7120

The pension expense factor to translate FY2020 actual costs to estimated calendar 2021 will be 7.39%. **Increase the total of fiscal year 2020's pension expense by this percent to establish the cost for calendar year 2021.** This reflects the effect of a General Pension rate change increase from FY20 of 22.63% to a calendar 2021 rate of 23.36% and the projected wage adjustments discussed above (lump sum payments, if any, are not pensionable). The calendar 2021 rate is a blend of the FY2021 rate (23.29%) and the FY2022 rate (23.43%).

The pension factor after consideration of the above rate and wage adjustments is 107.39% (or an increase of 7.39%) for GREIU and APA members. These factors are then weighted in accordance with union membership within the Sewer Fund $[(7.39 * 77\%) + (7.39 * 23\%)]$.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 13, 2020

TO: Jenessa B. Carter
Acting Utility Financial Officer

FROM: Mike Grenier
ESD Manager

**SUBJECT: 2020 SEWER RATE STUDY TASK #5
KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY20 operating costs are listed below:

<u>ACCOUNT/User Code</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>
5900-527-1000-8030	Kent County Community Action Program (ICB)	(\$95,439.64)
5900-527-3000-8010	GVRBA Contractual Services	(\$709,991.29)
5900-527-3000-8010	Ash Lagoon Remediation	\$250,000.00
5900-527-3000-8010	Biodigester and WRRF Computer Modeling	\$281,000.00
5900-527-3000-8010	Biodigester Technical Services – Tetra Tech	\$100,000.00
5900-527-3000-8010	Plant Process Instrumentation	\$200,000.00
5900-527-3000-8010	Agile Plant Safety Analysis	\$250,000.00
5900-527-3000-8010	Primary Sludge Pumping Automation	\$100,000.00
5900-527-3000-8010	CSX Investigation	\$120,000.00
5900-527-3000-8010	DO and TSS Probes	\$140,000.00
5900-527-3000-8010	Tunnel gas detector repairs	\$80,000.00
5900-527-3000-8010	Predictive Maintenance Software Update	\$40,000.00
5900-527-3000-9200	Consumers Energy Green Generation Participation	(\$58,174.00)

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 10, 2020

TO: Molly J. Clarin
Chief Financial Officer

FROM: Jenessa B. Carter
Acting Utility Financial Officer

SUBJECT: 2020 SEWER RATE STUDY TASK #6

The Sewage Disposal System Fund's revenues by governmental unit for the year ended June 30, 2020, are disclosed on the attached page, along with the three-year average billed volume used to calculate expected revenue in the next calendar year (see Task 26 and 27). In addition, annual volume comparisons for the past five (5) years by governmental unit are included herein.

Attachments

JBC:jbc

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 6**

DETERMINE SEWAGE VOLUME AND REVENUE BY GOVERNMENTAL ENTITY FOR THE YEAR ENDED JUNE 30, 2020:

RETAIL:	SALES REVENUE	<u>3 YR AVE BILLED VOL</u> (GALLONS)	<u>3 YR AVE BILLED VOL</u> (HCF)
CITY OF GRAND RAPIDS (1)	\$ 38,691,230.80	4,904,036,852	6,556,199
CITY OF WALKER	4,721,943.97	626,735,736	837,882
CITY OF KENTWOOD	4,280,772.73	1,035,331,484	1,384,133
CASCADE TOWNSHIP	2,503,312.05	346,997,200	463,900
GRAND RAPIDS TOWNSHIP	2,548,538.57	285,249,800	381,350
TALLMADGE TOWNSHIP	478,221.70	25,812,732	34,509
WRIGHT TOWNSHIP (2)	292,990.24	19,581,091	26,180
SUB-TOTAL RETAIL (3)	<u>\$ 53,517,010.06</u>	<u>7,243,744,895</u>	<u>9,684,153</u>
 WHOLESALE:			
CITY OF E. GRAND RAPIDS	\$ 999,816.05	467,017,667	624,403
CALEDONIA TOWNSHIP	130,919.28	28,122,000	37,599
ADA TOWNSHIP	1,307,068.74	293,525,333	392,443
GAINES TOWNSHIP (4)	223,641.95	122,183,000	163,359
SUB-TOTAL WHOLESALE	<u>\$ 2,661,446.02</u>	<u>910,848,000</u>	<u>1,217,804</u>
TOTAL	<u>\$ 56,178,456.08</u>	<u>8,154,592,895</u>	<u>10,901,957</u>

REVENUE CLASSIFICATION:

527-1000-5900-6281 RETAIL SEWAGE SERVICE CHARGE	\$ 53,437,067.33
527-1000-5900-6284 WYOMING SEWAGE SERVICE CHARGE	79,942.73
527-1000-5900-6282 WHOLESALE SEWAGE SERVICE CHARGE	<u>2,661,446.02</u>
TOTAL	<u>\$ 56,178,456.08</u>

- (1) THE VOLUME & REVENUE AMOUNT FOR THE CITY OF WYOMING ARE INCLUDED IN THE GRAND RAPIDS TOTALS.
- (2) CHARGES TO USERS IN WRIGHT TOWNSHIP ARE BASED ON A REU (RESIDENTIAL EQUIVALENT UNIT) CHARGE, IN LIEU OF COMMODITY & MONTHLY SERVICE CHARGES, AND AS SUCH DOES NOT RECORD ANY BILLED VOLUME IN RETAIL SERVICE CHARGES TO WRIGHT TOWNSHIP. THE AMOUNT INCLUDED ABOVE REFLECTS THE ESTIMATED BILLED VOLUME BASED ON THE WRRF'S LIFT STATION PUMPING REPORT FOR FY 2020.
- (3) A NET REVENUE ACCRUAL OF \$2,536,429.08 HAS BEEN PRORATED TO ALL RETAIL CUSTOMER COMMUNITIES TO ACCRUE BILLINGS FROM THE LAST READING DATE THROUGH JUNE 30, 2020, AND ADJUST FOR PREVIOUS FISCAL YEAR ACCRUAL.
- (4) GAINES TWP RATES ARE CALCULATED BASED ON MOST RECENT FISCAL YEAR BILLED VOLUME PER CONTRACT.

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
2020 RATE STUDY TASK NO. 6**

VOLUME COMPARISONS FOR FIVE (5) YEARS BY GOVERNMENTAL UNIT
VOLUME = 1,000 GALLONS

MUNICIPALITY	FY16		FY17		FY18		FY19		FY20		FY16 - FY20 % CHANGE
	VOL BILLED	% CHANGE									
GRAND RAPIDS	4,899,755	0.88%	4,942,953	-0.24%	4,931,223	1.36%	4,998,134	1.36%	4,782,754	-4.31%	-2.39%
WALKER	622,635	4.55%	650,975	-0.73%	646,233	-1.34%	637,561	-1.34%	596,412	-6.45%	-4.21%
KENTWOOD	1,034,652	-0.20%	1,032,553	3.56%	1,069,319	-1.59%	1,060,147	3.12%	976,528	-7.89%	-5.62%
CASCADE	343,441	4.46%	358,774	0.04%	353,054	-1.78%	357,434	12.02%	330,505	-7.53%	-3.77%
GRAND RAPIDS TWP	289,396	19.94%	289,525	6.11%	284,378	-2.98%	293,245	5.03%	278,126	-5.16%	-3.89%
TALLMADGE	17,888	11.53%	21,454	-1.50%	24,350	12.13%	27,276	12.02%	25,812	-5.37%	44.30%
WRIGHT TWP	18,345	25.75%	19,465	1.83%	18,885	-6.12%	19,834	5.03%	20,025	0.96%	9.16%
EAST GRAND RAPIDS	352,815	11.53%	393,511	11.53%	441,259	12.13%	461,287	4.54%	498,507	8.07%	41.29%
ADA TWP	320,210	-1.50%	315,417	-1.50%	296,101	-6.12%	291,737	-1.47%	292,738	0.34%	-8.58%
CALEDONIA TWP	25,154	25.75%	31,631	25.75%	29,741	-5.98%	28,715	-3.45%	25,910	-9.77%	3.01%
GAINES TWP	118,674	12.80%	133,866	12.80%	113,527	-15.19%	115,345	1.60%	122,183	5.93%	2.96%
TOTAL	8,042,965	1.83%	8,190,124	0.22%	8,208,070	1.01%	8,290,715	1.01%	7,949,500	-4.12%	-1.16%

GRAND RAPIDS VOLUME COMPARED TO
CUSTOMER COMMUNITIES

VOLUME = 1,000 GALLONS	FY16		FY17		FY18		FY19		FY20	
	VOL BILLED	% OF TOTAL								
GRAND RAPIDS	4,899,755	60.35%	4,942,953	60.08%	4,931,223	60.08%	4,998,134	60.29%	4,782,754	60.16%
CUSTOMER COMMUNITIES	3,143,210	39.65%	3,247,171	39.92%	3,276,847	39.92%	3,292,581	39.71%	3,166,746	39.84%
TOTAL	8,042,965	100.00%	8,190,124	100.00%	8,208,070	100.00%	8,290,715	100.00%	7,949,500	100.00%

* Volumes were restated from previous Rate Studies to reflect actual billings without adjustment for accrued revenues.

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 7**

OPERATING REVENUES OTHER THAN WASTEWATER RECEIPTS:

527-1000-5900

6260	MISCELLANEOUS SERVICE FEES	\$ 3,629.08
6140	INSPECTION FEES - UTILITIES	24,465.00
6461	INVENTORY WITHDRAWALS (SALES)	17,816.12
6723	INTEREST/PENALTIES ON SPEC ASSM	2,339.26

527-(3000/3080)-5900

4912	INDUSTRIAL PRETREATMENT PERMITS	\$ 46,659.07
6423	SALES OF SCRAP MATERIAL	395.47
6461	INVENTORY WITHDRAWALS (SALES)	124,246.82
		<u>\$ 219,550.82</u>

CREDIT: UNDERUTILIZATION OF PENALTY CREDIT FROM PREVIOUS YEAR \$ 199,092.00

INTEGRATED SYSTEM CREDITS

527-1000/3000-5900

6152	INTEGRATED SEWER CONNECTION	\$ 303,612.50
6283	SEWAGE SURCHARGE	2,393,465.54
		<u>\$ 2,697,078.04</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 12, 2020

TO: Jenessa B. Carter
Acting Utility Financial Officer

FROM: Charles R. Schroeder, PE
Assistant ESD Manager

SUBJECT: 2020 SEWER RATE STUDY- TASK #8

There are no significant changes in operating levels are anticipated to take effect by January 1, 2021, which would require adjustments to operating costs for the test period.

Due to the significant scale of the Biodigestion projects, \$30 Million was preloaded for return on investment and depreciation expense during the 2019 Rate Study in order to mitigate predicted rate impacts on rate payers. Project delays materialized in 2020 due to the COVID19 pandemic delayed the Biodigestion Projects from being included as assets in the 2020 Rate Study fully. While Sewer Fund cash flow and reserves have supported the total spending on the projects to date of \$75 Million, an additional \$45 Million preload is required to provide adequate capacity in the fund for capital projects and to remain compliant for debt coverage required from the System's bond covenants. The Biodigestion projects are expected to be completed in the Spring of 2021.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 12, 2020

TO: Jenessa B. Carter
Acting Utility Financial Officer

FROM: Charles R. Schroeder, PE
Assistant ESD Manager

SUBJECT: 2020 SEWER RATE STUDY- TASK #9

No significant changes in sewer revenues are anticipated to take effect by January 1, 2021, which would require an adjustment to operating revenue estimates as a whole.

CS

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 12, 2020

TO: Jenessa B. Carter
Acting Utility Financial Officer

FROM: Charles R. Schroeder, PE
Assistant ESD Manager

SUBJECT: 2020 SEWER RATE STUDY- TASK #10

The following are sewage system projects that should be considered operative as of January 1, 2021.

<u>Description</u>	<u>Location</u>	<u>Proj. Code</u>	<u>Cost</u>
South Plant Actuators Sludge Pump	Integrated	590217016 590218030 590219047	\$1,292,894
Viridian Place	Grand Rapids	Contribution	267,016
Michigan Street, Prospect Ave	Grand Rapids	Contribution	32,269
Hastings and Sinclair	Grand Rapids	590220035	130,000
Sinclair, Trowbridge and Laker Connection	Grand Rapids	590120016	99,050
Mason, Ottawa, Fairview	Grand Rapids	590120065	953,200
Black Hawk Site Condominium Ph 2	GR Township	Contribution	227,782
Southern Sun	GR Township	Contribution	103,000
Grove by Watermark	GR Township	Contribution	210,000
Bretonfield Preserve Ph 3	Kentwood	Contribution	126,075
Sanitary Sewer in PESE, 3303 52 nd	Kentwood	Contribution	31,071
Northridge Drive East	Walker	Contribution	333,910
Meadow Springs Ph 2	Walker	Contribution	112,193
Northridge Drive Ext West	Walker	590118054	165,000
			<u>\$4,083,460</u>

*CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 11*

COMPUTE ACCUMULATED COST, DEPRECIATION AND DEPRECIATION EXPENSE AS OF JUNE 30, 2020

INTEGRATED SYSTEM

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 1,381,234	\$ -	\$ -
LAND IMPROVEMENTS	16,421,913	14,577,092	242,476
BUILDINGS & STRUCTURES	54,884,626	35,486,187	1,128,498
PROCESS EQUIPMENT	72,464,844	43,137,748	1,933,495
AUXILIARY EQUIPMENT	32,637,904	26,938,103	720,811
MACHINERY & EQUIPMENT	6,410,364	5,303,050	67,420
OFFICE EQUIPMENT & FURNITURE	494,401	487,017	235
	<u>\$ 184,695,286</u>	<u>\$ 125,929,197</u>	<u>\$ 4,092,935</u>

NON-INTEGRATED SYSTEM

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 4,126,068	\$ -	\$ -
LAND IMPROVEMENTS	3,486,637	2,217,986	174,617
BUILDINGS & STRUCTURES	10,653,671	4,311,025	200,700
PROCESS EQUIPMENT	16,842,826	9,217,000	525,109
AUXILIARY EQUIPMENT	4,927,464	3,701,776	212,794
MACHINERY & EQUIPMENT	1,694,680	1,687,246	47,817
OFFICE EQUIPMENT & FURNITURE	66,272	66,272	-
SERVICEMAINS - GRAND RAPIDS	395,632,831	138,784,965	7,508,625
SERVICEMAINS - WALKER	41,402,330	19,176,832	783,282
SERVICEMAINS - KENTWOOD	42,950,753	18,931,045	822,174
SERVICEMAINS - CASCADE TWP	22,303,119	10,175,676	436,781
SERVICEMAINS - GRAND RAPIDS TWP	19,369,546	8,789,619	376,175
SERVICEMAINS - TALLMADGE TWP	6,408,677	1,951,772	126,788
SERVICEMAINS - WRIGHT TWP	125,288	36,336	2,509
	<u>\$ 569,990,162</u>	<u>\$ 219,047,550</u>	<u>\$ 11,217,371</u>
TOTAL	<u>\$ 754,685,448</u>	<u>\$ 344,976,747</u>	<u>\$ 15,310,306</u>

SOURCE: GENERAL LEDGER, AS ADJUSTED, FOR JUNE 30, 2020.

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 12**

TASK 12A DETERMINE WORKING CAPITAL NEEDS FOR MATERIALS AND SUPPLIES ON HAND.

MATERIALS AND SUPPLIES INVENTORY AS OF JUNE 30, 2020: \$ 1,008,846

TASK 12B DETERMINE WORKING CAPITAL NEEDS FOR PREPAYMENT OF OPERATING COSTS.

NO REQUIREMENT FOR PREPAYMENT OF OPERATING COSTS IS CALLED FOR IN THE ORDINARY CYCLE OF BUSINESS.

TASK 12C DETERMINE CASH WORKING CAPITAL NEEDS & DETERMINE TOTAL WORKING CAPITAL NEEDS.

MINIMUM CASH WORKING CAPITAL IS DEFINED AS THE SUM OF 90 DAYS ADJUSTED OPERATING EXPENSES.

ADJUSTED CURRENT ANNUAL EXPENSES = \$ 31,491,001 @ 90/365 = \$ 7,764,904

TOTAL WORKING CAPITAL NEEDS CONSIST OF THE FOLLOWING:

12A INVESTMENT IN INVENTORY	\$ 1,008,846
12B PREPAYMENT OF OPERATING EXPENSES	-
12C 90 DAY OPERATING EXPENSES	7,764,904
	\$ 8,773,750
	\$ 8,773,750

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 12, 2020

TO: Jenessa B. Carter
Acting Utilities Financial Officer

FROM: Charles R. Schroeder, PE
Assistant ESD Manager

**SUBJECT: 2020 SEWER RATE STUDY TASK #13
ZONEGATING & JOINT USE ALLOCATION METHODS**

Lengths and costs of all zoned interceptor and trunk sewer mains as well as jointly used lift stations are allocated to customer communities based on the 2016 Comprehensive Master Plan update performed by Black & Veatch, Ltd. and adjusted annually for the changes in billed flow for each customer community.

CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY

SEWAGE DISPOSAL SYSTEM FUND

METHODOLOGY FOR I/I & OTHER FLOW APPORTIONMENT - TASK NO. 13

	MILLION GALLONS
1.) ANNUAL WASTEWATER TREATMENT PLANT FLOW	16,968.40
LESS: WHOLESALE BILLED FLOW	(939.34)
LESS: RETAIL BILLED FLOW	(7,010.17)
TOTAL RETAIL I/I & OTHER FLOW	<u>9,018.89</u>
2.) RETAIL INFLOW FROM SEPARATED AREAS (A)	801.83
RETAIL INFLOW FROM COMBINED AREAS - AMOUNT ESTIMATED (A)	1,092.78
LESS: ANNUAL BYPASS FROM (3) PUMPING STATIONS	-
LESS: IN-SYSTEM BYPASS & RETENTION BASIN OVERFLOW	(24.20)
TOTAL RETAIL INFLOW	<u>1,870.41</u>
3.) RETAIL INFILTRATION:	
TOTAL RETAIL I/I & OTHER FLOW	9,018.89
LESS: TOTAL RETAIL INFLOW (#2)	(1,870.41)
LESS: MARKET AVE RETENTION BASIN (MARB) CAPTURE	7,148.48
TOTAL RETAIL INFILTRATION & OTHER FLOW	<u>(88.20)</u>
4.) ALLOCATION OF RETAIL INFILTRATION & OTHER FLOW - APPORTIONED ON THE BASIS OF B&V SUMMARY OF 2018 MONITORED FLOW DATA (B)	

	MILLION GALLONS
GOVERNMENTAL UNIT(S)	
UTILITY PARTNERS	7,060.28
TOTAL	<u>7,060.28</u>
PRORATA SHARE OF RETAIL INFILTRA- TION & OTHER	100.0000%
	<u>100.0000%</u>

(A) BASED ON RECORDED RAINFALL @ WWTP & APPORTIONED PER BLACK & VEATCH'S SUMMARY OF 2018 MONITORED FLOW DATA.
(B) BASED ON INFILTRATION & OTHER FLOW APPORTIONED IN PREVIOUS YEAR & ADJUSTED FOR SYSTEM ADDITIONS & IMPROVEMENTS
IN EACH CUSTOMER COMMUNITY.

CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
METHODOLOGY FOR I/I & OTHER FLOW APPORTIONMENT - TASK NO. 13 (CONTINUED)

5.) SUMMARY: (IN MILLION GALLONS)	BILLED FLOW (TASK #6)	INFLOW (#2 ABOVE)	INFILTRATION & OTHER FLOW (#4 ABOVE)	MARB (A) (#3 ABOVE)	TOTAL PLANT FLOW	PERCENT OF TOTAL	TOTAL PLANT FLOW (MGD)
GOVERNMENTAL UNIT(S)	7,801.42	1,870.41	7,060.28	86.55	16,818.66	99.1175%	46.0784
UTILITY PARTNERS	122.18	-	-	1.36	123.54	0.7281%	0.3385
GAINES TWP	7,949.51	1,870.41	7,060.28	88.20	16,968.40	100.0000%	46.4887
TOTAL							

(A) BASED ON BILLED FLOW (TASK #6).

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 21, 2020

TO: Jenessa B Carter, Acting Utility Financial Officer

FROM: Charles Schroeder, P.E.
Assistant ESD Manager

SUBJECT: 2020 SEWER RATE STUDY – WRRF FLOW DATA

Listed below is the Water Resource Recovery Facility (WRRF) flow data measured in million gallons (MG) for the last three completed fiscal years. Plant flow increased by 2.677% from 16,514.10 MG treated in FY2019 to 16,968.40 MG treated in FY2020. The final in system Combined Sewer Overflow point was eliminated July 13, 2015 and are no longer applicable to this report.

Month	FY 2018	FY 2019	FY 2020	% incr (decr)
July	1116.920	1105.700	1234.100	10.404%
August	1057.360	1205.700	1091.900	-10.422%
September	900.720	1295.900	1208.100	-7.268%
October	1360.700	1481.100	1627.900	9.018%
November	1275.470	1288.600	1420.100	9.260%
December	1100.710	1319.900	1429.700	7.680%
January	1284.440	1247.300	1781.200	29.974%
February	1496.300	1411.600	1324.600	-6.568%
March	1320.380	1670.300	1398.000	-19.478%
April	1276.560	1420.600	1346.500	-5.503%
May	1394.570	1601.700	1799.400	10.987%
June	1121.140	1465.700	1306.900	-12.151%
Total	14705.270	16514.100	16968.400	2.677%

Data Measured	FY 2018	FY 2019	FY 2020	% incr (decr)
Water Resource Recovery Facility (WRRF) avg daily flow (MG)	40.288	45.244	46.489	2.678%
Rainfall Recorded at WRRF (inches)	23.180	35.850	48.800	26.537%
Market Ave Retention Basin (MARB) inflow (MG)	155.850	33.900	112.400	69.840%
Market Ave Retention Basin (MARB) outflow (MG)	62.320	0.000	24.200	100.000%

cc: Jeff McCaul, P.E. - Assistant City Engineer

SUMMARY FOR YEAR : 2020 CITY OF GRAND RAPIDS , MICHIGAN RATE STUDY REPORT OVERFLOW VOLUMES		
DATE	Rainfall Inches (1)	MARB MG (2)
9/27 to 10/3	5.33	17.2
5/17 to 5/19	2.32	7.0
Totals	7.65	24.2
1. Rain Gauge at WRRF		
2. Market Avenue Retention Basin		

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 15, 2020

TO: Jenessa B. Carter
Acting Utility Financial Officer

FROM: Charles R. Schroeder, PE
Assistant ESD Manager

SUBJECT: 2020 SEWER RATE STUDY – TASK #14

Zonegating maps for the sewage system are included in the 2016 Comprehensive Master Plan update from Black & Veatch, Ltd. The report also contains comprehensive information with respect to the basis for zonegating service mains and other system components, such as lift stations, that service more than one community. All zonegating work papers are on file at the Wastewater Treatment Plant Administration Building located at 1300 Market Ave., SW, Grand Rapids, MI 49503. All zonegating maps are on file at the City Engineers Office located at 300 Monroe Ave, NW, Grand Rapids, MI 49503.

CRS\crs

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 15**

COMPUTE CONSTRUCTION COST RATE BASE (NET BOOK VALUE OF ASSETS, PLUS WORKING CAPITAL, LESS CSO REVENUE REQUIREMENTS FOR CSO FIXED ASSETS INCLUDED IN TASK #11/21, LESS CONTRIBUTIONS BY OTHERS).

ORIGINAL CONSTRUCTION COST	- TASK #10	\$ 79,374,499	
	- TASK #11/21	753,880,448	
	- TASK #16/21	<u>(187,300,597)</u>	\$ 645,954,350
LESS: ACCUMULATED DEPRECIATION	- TASK #10	\$ -	
	TASK #11/21	344,873,327	
	TASK #16/21	<u>(73,506,935)</u>	<u>(271,366,392)</u>
			374,587,958
WORKING CAPITAL REQUIREMENT	- TASK #12	\$ 8,773,750	
		<u>8,773,750</u>	<u>8,773,750</u>
			383,361,708
CONTRIBUTIONS BY OTHERS	- TASK #21	\$ 199,346,198	
LESS: AMORTIZATION		(147,058,107)	
		<u>(52,288,091)</u>	<u>(52,288,091)</u>
CONSTRUCTION COST RATE BASE			<u><u>\$ 331,073,617</u></u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 1, 2020

TO: Jenessa Carter
Acting Utility Financial Officer

FROM: Arden Postma, P.E.
Hydraulic Engineer

SUBJECT: 2020 Sewer Rate Study Integrated Connection Fees Task #15A

Attached is the Integrated Water and Sewer Connection Fee Schedule of rates effective January 1, 2021. Per the Fifth Amendment to the Water & Sanitary Sewer Service Agreements, adopted by City Commission on March 27, 2018 (Res. 87571), the methodology for connection to the water and sewer systems is calculated based on the cost of connection to the System and is evaluated annually as part of the Rate Study and shall be administered the same across the retail system.

The integrated connection fees effective January 1, 2020, shall be as follows:

Residential Users (three residential units or less)

Plan Review and Connection Fee (PRC Fee)			
Meter Size	2020	2021	% Change
3/4 inch	\$360	\$370	2.78%
1 inch	\$370	\$380	2.70%
1-1/2 inch	\$370	\$380	2.70%

All other Users (including residential of more than 3 units, commercial, industrial, governmental and religious)

Plan Review and Connection Fee (PRC Fee)			
Meter Size	2020	2021	% Change
3/4 inch	\$700	\$710	1.43%
1 inch	\$910	\$935	2.75%
1-1/2 inch	\$1,220	\$1,250	2.46%
2 inch	\$1,680	\$1,725	2.68%
3 inch	\$2,100	\$2,150	2.38%
4 inch	\$3,025	\$3,100	2.48%
6 inch	\$4,270	\$4,380	2.58%

Plus a Meter Capacity Fee based on the meter size (when water and sanitary sewer connections are made at the same time only one Meter Capacity Fee shall be charged) as follows:

Meter Capacity Charge			
Meter Size	2020	2021	% Change
¾ inch	\$210	\$210	0%
1 inch	\$250	\$250	0%
1 ½ inch - T2	\$750	\$750	0%
2 inch - T2	\$880	\$880	0%
3 inch - T2	\$1,100	\$1,100	0%
4 inch - T2	At cost	\$2,135	NA
6 inch - T2	At cost	\$3,460	NA
1 ½ inch - C2	\$1,200	\$1,200	0%
2 inch - C2	\$1,385	\$1,385	0%
3 inch - C2	\$1,755	\$1,755	0%
4 inch -C2	At cost	\$3,050	NA
6 inch - C2	At cost	\$5,265	NA

The MCC schedule is separated by two meter types; “T2” which is a traditional turbo style meter and “C2” which is a compound meter used for capturing a wider range of flows. The meter type is chosen as the City’s discretion.

Commercial Plan Assessment Fee – For instances where there is an established connection or property has been previously reviewed to allow for connection to the System which require less System resources to verify system connection requirements.

Commercial Plan Assessment Fee			
	2020	2021	% Change
All Sizes	\$125	\$125	NA

Further information on the new integrated connection fee methodology can be provided through the Utility Business Office.

AP/WJ

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
CSO REVENUE REQUIREMENTS - TASK 16
PRINCIPAL & INTEREST ON REVENUE BONDS & SRF
DEBT FOR CALENDAR YEAR 2021 - ACCRUAL BASIS**

DATE	SRF/REVENUE REFERENCE 5073- SERIES	REVENUE BONDS					TOTAL		TOTAL PRINCIPAL & INTEREST				
		PRINCIPAL	INTEREST	EST. FEES	PRINCIPAL	INTEREST	PRINCIPAL	INTEREST					
07/01/21	N/A	1998	(1)	\$	69,917.43	\$	375.00	\$	-	\$	70,292.43	\$	70,292.43
01/01/22	N/A	1998	(1)	\$	69,917.43		375.00		2,542,452.00		70,292.43		2,612,744.43
07/01/21	N/A	2010A	(2)		316,270.00		800.00		0.00		317,070.00		317,070.00
01/01/22	N/A	2010A	(2)		316,270.00		800.00		0.00		317,070.00		317,070.00
07/01/21	N/A	2013	(3)		600,873.50		600.00		0.00		601,473.50		601,473.50
01/01/22	N/A	2013	(3)		600,873.50		600.00		0.00		601,473.50		601,473.50
07/01/21	N/A	2014	(4)		618,120.00		625.00		0.00		618,745.00		618,745.00
01/01/22	N/A	2014	(4)		618,120.00		625.00		1,145,800.00		618,745.00		1,764,545.00
07/01/21	N/A	2016	(5)		361,226.25		625.00		0.00		361,851.25		361,851.25
01/01/22	N/A	2016	(5)		361,226.25		625.00		559,350.00		361,851.25		921,201.25
									<u>\$4,247,602.00</u>		<u>\$3,938,864.36</u>		<u>\$8,186,466.36</u>

- (1) PRORATED AMOUNT OF 1998 ISSUE RELATED TO CSO DEBT.
- (2) DS ON ES CSO PORTION OF 2010A&B ISSUE. (\$14.05M)
- (3) PRORATED AMOUNT OF 2013 ISSUE RELATED TO CSO DEBT.
- (4) PRORATED AMOUNT OF 2014 ISSUE RELATED TO CSO DEBT.
- (5) DS ON ES CSO PORTION OF REFUNDED 2008 ISSUE.

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 16A**

INCLUDE MAJOR PROJECT COST FOR UPCOMING SYSTEM IMPROVEMENTS (NON-INTEGRATED)

THE ESTIMATED TOTAL PROJECT COST FOR RECOMMENDED SEWAGE SYSTEM IMPROVEMENTS
ARE SUMMARIZED IN THE FOLLOWING TABLE.

ITEM NO.	DESCRIPTION	ESTIMATED COST	BUDGET YEAR
1	GODFREY AVE - LIBERTY ST TO OXFORD ST	\$2,341,000	2022
2	GODFREY AVE - OXFORD ST TO MARKET AVE	\$2,000,000	2022
3	VOIDS UNDER GELOCK - STRUCTURAL GROUT FILL	\$675,000	2022
4	COLLINDALE SANITARY SEWER & LIFT STATION IMP	\$250,000	2022
5	THOMAS ST - MADISON AVE TO FULLER AVE	\$243,000	2022
6	GARFIELD AVE - FULTON ST TO VETO ST, ET AL	\$100,000	2022
7	STRAIGHT ST - WEALTHY ST TO BUTTERWORTH	\$100,000	2022
8	CASCADE / KENTWOOD SANITARY TRUNK SEWER	\$300,000	2022
9	COLLEGE AVE - LEONARD ST TO SWEET ST	\$100,000	2022
10	EAST SIDE TRUNK SEWER - FULTON ST TO CSX RR	\$3,381,352	2022
11	BURTON / BRETON SANITARY TRUNK SEWER	\$500,000	2023
12	BERKSHIRE ST - GIDDINGS TO KALAMAZOO	\$225,000	2023
13	CASCADE / KENTWOOD SANITARY TRUNK SEWER	\$2,500,000	2023
14	BRANDYWINE SANITARY TRUNK SEWER	\$100,000	2023
15	BUTTERWORTH - HAOGADONE TO GOLD AVE	\$100,000	2024
16	BRANDYWINE SANITARY TRUNK SEWER	\$2,500,000	2024
17	CASCADE / KENTWOOD SANITARY TRUNK SEWER	\$2,500,000	2024
18	WHISKEY CREEK SANITARY TRUNK SEWER	\$200,000	2024
19	GRANDVILLE AVE - CLYDE PARK TO STOLPE	\$200,000	2024
20	44TH ST / EASTERN AVE SE COLLECTION AREA	\$500,000	2024
21	BURTON / BRETON SANITARY TRUNK SEWER	\$100,000	2024
22	GRANDVILLE AVE - FRANKLIN TO BEACON (DESIGN)	\$150,000	2024
23	BEACON ST AND B ST (DESIGN)	\$100,000	2024
24	GRANDVILLE AVE - FRANKLIN TO BEACON	\$1,830,000	2025
25	BEACON ST - GRANDVILLE TO CAUFIELD	\$500,000	2025
26	B ST - GRANDVILLE TO CAUFIELD ALLEY	\$305,000	2025
27	KENT COUNTRY CLUB SANITARY TRUNK SEWER	\$1,600,000	2025
28	BURTON / BRETON SANITARY TRUNK SEWER	\$3,000,000	2025
29	WHISKEY CREEK SANITARY TRUNK SEWER	\$3,700,000	2025
30	NELAND - BATES TO SHERMAN	\$1,000,000	2025
31	WEALTHY ST - ETHYL TO EAST CITY LIMITS	\$100,000	2025
32	GRANDVILLE AVE - FRANKLIN ST TO BEACON ST	\$500,000	2025
33	BEACON ST AND B ST	\$400,000	2026
34	LAFAYETTE AVE - FOUNTAIN ST TO MICHIGAN ST	\$270,000	2026
		<u>\$ 32,370,352</u>	

NOTE: NONE OF THE PROJECTS ABOVE ARE INCLUDED IN RECOMMENDED REVENUE REQUIREMENTS FOR CALENDAR YEAR 2021. COSTS SHOWN ARE IN 2020 DOLLARS.

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 17**

BONDS - PRINCIPAL & INTEREST PAYMENTS (SENIOR)

FISCAL YEAR ENDING JUNE 30,	PRINCIPAL	INTEREST	PRIN & INT
2021	\$ 8,965,000	\$ 13,779,886	\$ 22,744,886
2022	10,820,000	13,507,137	24,327,137
2023	11,365,000	12,945,787	24,310,787
2024	11,940,000	12,377,787	24,317,787
2025	12,535,000	11,781,037	24,316,037
2026	13,225,000	11,154,537	24,379,537
2027	13,895,000	10,495,373	24,390,373
2028	14,525,000	9,854,094	24,379,094
2029	10,490,000	9,183,000	19,673,000
2030	11,940,000	8,687,840	20,627,840
2031	12,510,000	8,121,364	20,631,364
2032	13,110,000	7,527,674	20,637,674
2033	13,775,000	6,874,547	20,649,547
2034	16,085,000	6,188,255	22,273,255
2035	14,625,000	5,386,575	20,011,575
2036	10,145,000	4,658,009	14,803,009
2037	10,640,000	4,159,871	14,799,871
2038	11,150,000	3,651,081	14,801,081
2039	9,395,000	3,135,540	12,530,540
2040	9,815,000	2,717,513	12,532,513
2041	10,245,000	2,280,658	12,525,658
2042	6,495,000	1,808,550	8,303,550
2043	4,630,000	1,504,600	6,134,600
2044	4,870,000	1,273,100	6,143,100
2045	4,220,000	1,029,600	5,249,600
2046	4,430,000	818,600	5,248,600
2047	4,630,000	617,550	5,247,550
2048	4,840,000	407,300	5,247,300
2049	2,295,000	187,400	2,482,400
2050	2,390,000	95,600	2,485,600
	\$ 289,995,000	\$ 176,209,867	\$ 466,204,867

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 18**

DETERMINE SEWER SYSTEM EQUITY IN THE CONSTRUCTION COST RATE BASE BY
SUBTRACTING DEBT OUTSTANDING FROM THE TOTAL RATE BASE.

CONSTRUCTION COST RATE BASE - TASK NO. 15	\$ 331,073,617
LESS: BONDED INDEBTEDNESS IN CCRB (CASH BASIS) - TASK NO. 20	(193,353,114)
NET SEWER SYSTEM EQUITY	<u><u>\$ 137,720,502</u></u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE OF RETURN ON EQUITY - TASK NO. 19**

AT THE APRIL 5, 1977, COMMITTEE OF THE WHOLE MEETING, THE CITY COMMISSION DECIDED THE LEVEL OF RETURN ON SEWER SYSTEM EQUITY. THE LEVEL DECIDED UPON WAS ONE PERCENT MORE THAN THE AVERAGE BOND BUYER'S INDEX OF MUNICIPAL BONDS FOR THE PREVIOUS TWELVE MONTH PERIOD.

BOND BUYER'S INDEX OF 20 MUNICIPAL BONDS

<u>DATE</u>	<u>RATE</u>	<u>DATE</u>	<u>RATE</u>
26-Sep-19	2.662%	26-Mar-20	2.270%
03-Oct-19	2.622%	02-Apr-20	2.840%
10-Oct-19	2.590%	09-Apr-20	2.490%
17-Oct-19	2.700%	16-Apr-20	2.250%
24-Oct-19	2.750%	23-Apr-20	2.360%
31-Oct-19	2.792%	30-Apr-20	2.560%
07-Nov-19	2.860%	07-May-20	2.600%
14-Nov-19	2.850%	14-May-20	2.480%
21-Nov-19	2.792%	21-May-20	2.370%
28-Nov-19	2.770%	28-May-20	2.160%
05-Dec-19	2.767%	04-Jun-20	2.160%
12-Dec-19	2.740%	11-Jun-20	2.190%
19-Dec-19	2.740%	18-Jun-20	2.210%
26-Dec-19	2.740%	25-Jun-20	2.210%
02-Jan-20	2.730%	02-Jul-20	2.210%
09-Jan-20	2.630%	09-Jul-20	2.190%
16-Jan-20	2.557%	16-Jul-20	2.120%
23-Jan-20	2.540%	23-Jul-20	2.100%
30-Jan-20	2.470%	30-Jul-20	2.090%
06-Feb-20	2.527%	06-Aug-20	2.020%
13-Feb-20	2.510%	13-Aug-20	2.050%
20-Feb-20	2.457%	20-Aug-20	2.150%
27-Feb-20	2.270%	27-Aug-20	2.200%
05-Mar-20	2.310%	03-Sep-20	2.220%
12-Mar-20	2.567%	10-Sep-20	2.220%
19-Mar-20	2.720%	17-Sep-20	2.220%
		<u>52 WEEKS</u>	<u>2.454%</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 20**

DETERMINE COMPOSITE RATE OF RETURN ON CONSTRUCTION COST RATE BASE

	RATE BASE	@	RATE OF RETURN	=	RETURN ON INVESTMENT
SEWER SYSTEM EQUITY IN THE CONSTRUCTION COST RATE BASE (CCRB)	\$ 137,720,502	@	3.454%	=	\$ 4,756,734
SEWER SYSTEM INDEBTEDNESS IN THE CCRB					
1998 BONDS (refunded 1990 Bonds)	3,074,687	@	5.06%	=	155,579
2010 BONDS	29,625,000	@	5.00%	=	1,481,250
2010A&B BONDS	8,730,000	@	4.37%	=	381,501
2011 SRF BONDS	4,199,675	@	2.50%	=	104,992
2012 BONDS	23,500,000	@	4.48%	=	1,052,800
2013 BONDS (refunded 2004 Bonds)	7,184,688	@	4.43%	=	318,282
2013 SRF BONDS	819,125	@	2.00%	=	16,383
2014 BONDS (refunded 2005 Bonds)	26,080,600	@	4.99%	=	1,301,422
2016 BONDS (partially refunded 2008 Bonds)	26,509,650	@	5.00%	=	1,325,483
2018 BONDS	41,160,000	@	5.00%	=	2,058,000
2020 BONDS (amt in CCRB)	22,469,690	@	5.00%	=	1,123,484
LESS INTEREST ON BOND RESERVE ACCOUNTS					(265,909)
	\$ 331,073,617				\$ 13,810,001
COMPOSITE RATE OF RETURN ON INVESTMENT			\$ 13,810,001	=	4.171%
			\$331,073,617		

Noted Disclosure:

TOTAL BONDED INDEBTEDNESS IN CCRB (from above) \$ 193,353,114 TASK NO. 18

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
CONSTRUCTION COST RATE BASE & RETURN ON SYSTEM INVESTMENT - TASK NO. 21- PART1
FISCAL YEAR ENDED JUNE 30, 2020

PHYSICAL LOCATION

DESCRIPTION	RETAIL										WHOLESALE					TOTAL
	INTEGRATED SYSTEM	CITY OF GR	CITY OF WALKER	CITY OF KENWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP				
COST	\$ 261,279,219	\$ 231,580,747	\$ 41,870,978	\$ 31,601,781	\$ 21,154,194	\$ 22,538,835	\$ 5,683,560	\$ 118,230	\$ -	\$ -	\$ -	\$ -	\$ 615,827,544			
LESS: ACCUMULATED DEPRECIATION	125,929,197	77,926,301	19,695,964	15,632,906	9,939,937	9,263,734	1,803,715	67,406	-	-	-	-	260,259,160			
NET BOOK VALUE	\$ 135,350,022	\$ 153,654,446	\$ 22,175,014	\$ 15,968,875	\$ 11,214,257	\$ 13,275,101	\$ 3,879,845	\$ 50,824	\$ -	\$ -	\$ -	\$ -	\$ 355,568,384			
WORKING CAPITAL REQUIREMENT	5,907,629	1,756,505	348,142	242,243	186,618	248,473	29,392	27,988	3,334	877	18,864	3,685	8,713,750			
	\$ 141,257,661	\$ 155,410,951	\$ 22,523,156	\$ 16,211,118	\$ 11,400,875	\$ 13,523,574	\$ 3,909,237	\$ 78,812	\$ 3,334	\$ 877	\$ 18,864	\$ 3,685	\$ 364,342,134			
CONTRIBUTIONS	50,267,759	58,145,009	25,636,372	25,229,104	18,792,253	15,967,969	5,307,732	-	-	-	-	-	199,346,198			
LESS AMORTIZATION	(48,415,229)	(50,721,346)	(13,162,073)	(14,143,277)	(9,436,605)	(7,680,519)	(1,656,143)	-	-	-	-	-	(145,215,192)			
	\$ (1,852,530)	\$ (7,423,663)	\$ (12,474,299)	\$ (11,085,827)	\$ (9,355,648)	\$ (8,287,450)	\$ (3,651,589)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (64,131,006)			
CONSTRUCTION COST RATE BASE	\$ 139,405,121	\$ 147,987,287	\$ 10,048,857	\$ 5,125,291	\$ 2,045,227	\$ 5,236,124	\$ 257,648	\$ 78,812	\$ 3,334	\$ 877	\$ 18,864	\$ 3,685	\$ 310,211,128			
RETURN ON INVESTMENT- TASK 20	4.171%	\$ 6,172,550	\$ 419,138	\$ 213,776	\$ 85,306	\$ 218,399	\$ 10,746	\$ 3,287	\$ 139	\$ 37	\$ 787	\$ 154	\$ 12,938,907			
ZONEGATED																
COST	\$ -	\$ 93,433	\$ 6,198,658	\$ 2,435,510	\$ 4,306,526	\$ 5,517,233	\$ 1,850,372	\$ 1,726,922	\$ 363,128	\$ 253,522	\$ 6,405,295	\$ 976,207	\$ 30,126,806			
LESS: ACCUMULATED DEPRECIATION	-	(494,702)	2,463,222	1,579,602	1,349,240	2,097,776	521,656	655,966	247,526	163,509	1,893,827	629,610	11,107,232			
NET BOOK VALUE	-	\$ 588,135	\$ 3,735,436	\$ 855,908	\$ 2,957,286	\$ 3,419,457	\$ 1,328,716	\$ 1,070,956	\$ 115,602	\$ 90,013	\$ 4,511,468	\$ 346,597	\$ 19,019,574			
WORKING CAPITAL REQUIREMENT	-	\$ 588,135	\$ 3,735,436	\$ 855,908	\$ 2,957,286	\$ 3,419,457	\$ 1,328,716	\$ 1,070,956	\$ 115,602	\$ 90,013	\$ 4,511,468	\$ 346,597	\$ 19,019,574			
CONTRIBUTIONS	-	13	6,603	1,050,662	295,863	138,544	225	208	1,504	210,756	242,778	811,469	2,758,625			
LESS AMORTIZATION	-	(8)	(6,603)	(735,464)	(207,104)	(97,346)	(225)	(208)	(1,053)	(128,851)	(169,945)	(496,108)	(1,842,915)			
	-	\$ (5)	\$ -	\$ (315,198)	\$ (88,759)	\$ (41,198)	\$ -	\$ -	\$ (451)	\$ (81,905)	\$ (72,833)	\$ (315,361)	\$ (915,710)			
CONSTRUCTION COST RATE BASE	\$ -	\$ 588,130	\$ 3,735,436	\$ 540,710	\$ 2,869,527	\$ 3,378,259	\$ 1,328,716	\$ 1,070,956	\$ 115,151	\$ 8,108	\$ 4,438,635	\$ 31,236	\$ 18,103,864			
RETURN ON INVESTMENT- TASK 19/21	-	\$ 40,898	\$ 259,759	\$ 37,600	\$ 199,475	\$ 234,921	\$ 92,398	\$ 74,473	\$ 8,007	\$ 564	\$ 308,658	\$ 1,303	\$ 1,258,056			
RETURN ON INVESTMENT- TASK 19/21	6.954%	6.954%	6.954%	6.954%	6.954%	6.954%	6.954%	6.954%	6.954%	6.954%	6.954%	4.171%				
TOTAL RETURN ON INVESTMENT	\$ 5,814,588	\$ 6,213,448	\$ 678,897	\$ 251,376	\$ 284,781	\$ 453,320	\$ 103,144	\$ 77,760	\$ 8,146	\$ 601	\$ 309,445	\$ 1,457	\$ 14,196,963			

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
CONTRIBUTIONS & AMORTIZED CONTRIBUTIONS- TASK NO. 21- PART3
FISCAL YEAR ENDED JUNE 30, 2020

CONTRIBUTIONS BY OTHERS

COST CENTER 2019 RATE STUDY (LOCATION)	AMOUNT	RETAIL							WHOLESALE							TOTAL
		CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	FALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP				
INTEGRATED SYSTEM	\$ 50,267,759	\$ 57,440,851	\$ 25,038,013	\$ 24,470,724	\$ 18,637,210	\$ 15,940,848	\$ 5,766,972	-	-	-	-	-	-	-	-	\$ 196,962,377
ADDITIONS:																
CONNECTION & FRONT FOOT FEES			10,500	116,661	9,235	27,121	-	-	-	-	-	-	-	-	-	258,567
FIXED ASSET CONTRIBUTIONS			587,859	641,719	145,808	-	140,760	-	-	-	-	-	-	-	-	2,125,254
PLASTER CREEK INTERCEPTOR			\$ 58,145,009	\$ 25,229,104	\$ 18,792,253	\$ 15,967,969	\$ 5,307,732	-	-	-	-	-	-	-	-	\$ 199,346,198
GRANT	\$ 2,244,621			1,050,662	295,863	137,326	-	-	1,504	23,973	242,778	92,276	-	-	-	
INTERCEPTOR	1,314,819									186,783		719,193				
LIFT STATION	70,753		6,603			1,218	225									
ADJUSTED BY ZONEGATING		\$ 50,267,759	\$ 25,642,975	\$ 26,279,766	\$ 19,088,116	\$ 16,106,513	\$ 5,307,957		\$ 1,504	\$ 242,778	\$ 242,778	\$ 811,469				\$ 199,346,198
LESS: ZONEGATING ADJUSTMENT			\$ 6,603	\$ 1,050,662	\$ 295,863	\$ 138,544	\$ 225		\$ 1,504	\$ 242,778	\$ 242,778	\$ 811,469				\$ -
PHYSICAL LOCATION		\$ 50,267,759	\$ 25,636,372	\$ 25,229,104	\$ 18,792,253	\$ 15,967,969	\$ 5,307,732									\$ 199,346,198

AMORTIZED CONTRIBUTIONS

2019 RATE STUDY (LOCATION)	\$ 47,409,874	\$ 12,682,377	\$ 13,640,791	\$ 9,060,760	\$ 7,364,625	\$ 1,549,943	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 141,296,223
CURRENT YEAR ADJUSTMENT	1,005,355.18	479,696.00	502,486.00	375,845.00	315,894.00	106,200.00										3,918,969.18
PLASTER CREEK INTERCEPTOR	\$ 50,721,346	\$ 13,162,073	\$ 14,143,277	\$ 9,436,605	\$ 7,680,519	\$ 1,656,143	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 145,215,192
GRANT			735,464	207,104	96,128	-	-	1,053	16,781	169,945	64,593	-	-	-	-	
INTERCEPTOR	8										431,515					
LIFT STATION	70,753	6,603		1,218		225										
ADJUSTED BY ZONEGATING	\$ 50,721,354	\$ 13,168,676	\$ 14,878,741	\$ 9,643,709	\$ 7,777,865	\$ 1,656,368										\$ 145,215,192
LESS: ZONEGATING ADJUSTMENT		\$ 6,603	\$ 735,464	\$ 207,104	\$ 97,346	\$ 225			\$ 1,053	\$ 169,945	\$ 496,108					\$ -
PHYSICAL LOCATION	\$ 50,721,346	\$ 13,162,073	\$ 14,143,277	\$ 9,436,605	\$ 7,680,519	\$ 1,656,143			\$ -	\$ -	\$ -					\$ 145,215,192

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
RECONCILIATION OF CONSTRUCTION COST & ACCUMULATED DEPRECIATION- PHYSICAL LOCATION & ZONEGATING
FISCAL YEAR ENDED JUNE 30, 2020

COST CENTER	AMOUNT	ACCUMULATED DEPRECIATION- BY PHYSICAL LOCATION:											
		INTEGRATED SYSTEM		RETAIL			WHOLESALE						
		CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP	TOTAL
BY PHYSICAL LOCATION- TASK 11	\$ 125,929,197	\$ 158,802,450	\$ 19,399,872	\$ 18,831,045	\$ 10,673,743	\$ 9,089,363	\$ 2,031,488	\$ 119,589	\$ -	\$ -	\$ -	\$ -	\$ 344,976,747
IN SERVICE- TASK 10													
MARINE CONNECTOR AGREEMENT		(159,833)					(167,171)	(24,078)					(351,082)
SADDLEBACK SEWER				233,371	14,291								247,662
TASK 11/16/21- CSO ACC. DEPRECIATION		(73,506,935)											(73,506,935)
O'BRIEN		(319,174)	319,174										
VANPORTFLEET		(376,126)	376,126										
REMEMBRANCE / 3 MILE		(813,921)	813,921										
HAYES- WEST		(90,785)						55,148					
HAYES- EAST		(121,026)						90,785					
KINGSBURY		(139,523)						121,026					
MEADOWWOOD TRAILS	\$	(22,280)	139,523		22,280								
OAK HOLLOW		(22,280)				22,280							
COLLINDALE		(22,280)											
THORNAPPLE		(128,632)			128,632								
6000 28TH ST		(40,847)			40,847								
THORNHILLS		(51,310)			51,310								
ROBINHOOD		(83,253)				83,253							
CASCADE SPRINGS		(45,835)			45,835								
SHOREHAVEN		(33,881)				33,881							
EAGLECREST		(71,608)				71,608							
GREENBRIER		(19,394)				19,394							
LINGCOLN SCHOOL		(57,747)				57,747							
REEDS LAKE		(299,744)				299,744							
KRAFT		(33,881)			33,881								
ORCHARD VISTA		(15,885)			15,885								
BIRD AVE-ALPINE ESTATES		(251,913)				251,913							
EAST PARIS		(172,522)				172,522							
SERVICE MAINS													
LESS- SERVICE MAINS- TOTAL SUBS- PHY. LOC.		(12,152,786)	(4,364,083)	(5,929,297)	(558,012)	(137,648)	(200,826)						(23,342,652)
ADD- SERVICE MAINS- TOTAL ADDS- PHY. LOC.		6,454,398	3,277,190	2,397,786	85,756	12,169	8,130						12,235,429
	\$ 125,929,197	\$ 76,142,299	\$ 19,984,003	\$ 15,632,905	\$ 10,554,448	\$ 9,982,226	\$ 1,883,432	\$ 150,659	\$ -	\$ -	\$ -	\$ -	\$ 260,259,169

ACCUMULATED DEPRECIATION- ZONEGATED

LIFT STATIONS / CHAMBERS:													
FULLER-BROOKVIEW	\$	831,360				477,608							
FULTON-MIDDLEBORROW		37,983				37,983							
WEALTHY ST EXT- CHAMBER		194,596	51,029				6,556						
WEALTHY		20,444	(6,701)				46	259					
MARKET		7,798,988	(909,831)			134,299	24,801	22,929					
VANPORTFLEET		376,126	117,513										
REMEMBRANCE / 3 MILE		813,921	(151,455)				22,676	128,779					
16th AVENUE		55,148					(90,785)	90,785					
HAYES- WEST		90,785											
HAYES- EAST		121,026											
O'BRIEN		319,174	(59,826)				35,524						
SERVICE MAINS- ZONEGATED ACC. DEPRECIATION			2,006,789	1,579,602	1,349,240	1,447,886	522,838	413,214	247,526	1,893,827	629,610	11,107,232	
TOTAL- ZONEGATED ACC. DEPRECIATION		(494,702)	\$ 2,463,222	\$ 1,579,602	\$ 1,349,240	\$ 2,097,776	\$ 521,656	\$ 655,966	\$ 247,526	\$ 1,893,827	\$ 629,610	\$ 11,107,232	
GRAND TOTAL- ACC. DEPRECIATION	\$ 125,929,197	\$ 75,647,597	\$ 22,447,225	\$ 17,212,507	\$ 11,903,688	\$ 12,080,002	\$ 2,405,088	\$ 806,625	\$ 247,526	\$ 1,893,827	\$ 629,610	\$ 271,366,401	

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 23**

ASSIGN OTHER OPERATING REVENUES TO EACH GOVERNMENTAL ENTITY.

BASIS OF ALLOCATION: RETAIL BILLINGS BY GOVERNMENTAL ENTITY - TASK NO. 6 & 7

	<u>RETAIL BILLINGS</u>	<u>PERCENTAGE OF TOTAL</u>	<u>ALLOCATION *</u>
CITY OF GRAND RAPIDS	\$ 38,691,231	72.2970%	\$ 302,667
CITY OF WALKER	4,721,944	8.8233%	36,938
CITY OF KENTWOOD	4,280,773	7.9989%	33,487
CASCADE TOWNSHIP	2,503,312	4.6776%	19,582
GRAND RAPIDS TOWNSHIP	2,548,539	4.7621%	19,936
TALLMADGE TOWNSHIP	478,222	0.8936%	3,741
WRIGHT TOWNSHIP	292,990	0.5475%	2,292
	<u>\$ 53,517,011</u>	<u>100.0000%</u>	<u>\$ 418,643</u>

** Reflects adjustment for circuit breaker provisions per 3rd amendment of W/S agreements*

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ASSIGN DEPRECIATION EXPENSE TO CUSTOMER COMMUNITIES - TASK NO. 24
FISCAL YEAR ENDED JUNE 30, 2020

COST CENTER BY PHYSICAL LOCATION- TASK 11 ADD-IN SERVICE- TASK 108 MARINE CONNECTOR AGREEMENT SADDLEBACK SEWER LESS: TASK 11/16/21-CSO DEP. EXP. LIFT STATIONS / CHAMBERS: FULLER-BROOKVIEW (GR) FULTON- MIDDLEBORO (GR) WEALTHY MARKET VANPORTFLIET REMEMBRANCE / 3 MILE O'BRIEN KINGSBURY MEADOWOOD TRAILS OAK HOLLOW COLLINDALE THORNAPPLE 6000 28TH ST THORNHILLS ROBINHOOD CASCADE SPRINGS SHOREHAVEN EAGLECREST GREENBRIER LINCOLN SCHOOL REEDS LAKE KRAFT ORCHARD VISTA 16TH AVE HAYES- WEST HAYES- EAST BIRD AVE-ALPINE ESTATES EAST PARIS SERVICEMANS ADJUSTED BY ZONEGATING LESS CONTRIBUTIONS AMORTIZED TASK NO. 21 TOTAL	RETAIL										WHOLESALE					TOTAL
	CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP	TOTAL			
\$ 4,092,935	\$ 8,472,602	\$ 905,798	\$ 822,174	\$ 460,070	\$ 427,430	\$ 126,788	\$ 2,509	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15,310,306			
3,198,033	29,630	12,222	3,143	-	10,816	-	-	-	-	-	-	-	3,213,844			
	(2,695)					(10,307)	(1,563)						(14,565)			
	(3,781,167)		22,313	1,429									23,742			
\$ 26,326	(15,124)	-	-	-	15,124	-	-	-	-	-	-	-	(3,781,167)			
8,261	(2,444)	2,166	-	-	-	278	-	-	-	-	-	-	-			
393,343	(45,887)	36,707	-	-	6,773	1,251	1,156	-	-	-	-	-	-			
34,991	10,932	(10,932)	-	-	-	1,741	9,889	-	-	-	-	-	-			
62,502	915	(2,253)	-	-	-	1,338	-	-	-	-	-	-	-			
12,023																
10,772																
2,228																
2,228																
2,228																
7,474																
3,713																
3,947																
5,947																
2,183																
2,420																
8,944																
1,616																
5,121																
24,979																
2,420																
1,324																
826	(826)	-	-	-	-	-	-	-	-	-	-	-	-			
2,160	(2,160)	-	-	-	-	-	-	-	-	-	-	-	-			
4,421	(4,421)	-	-	-	-	4,421	-	-	-	-	-	-	-			
23,258	(23,258)	-	-	-	23,258	-	-	-	-	-	-	-	-			
10,783	(10,783)	-	-	-	10,783	-	-	-	-	-	-	-	-			
	(144,615)	30,791	(211,980)	43,455	80,537	24,849	26,914	3,042	4,829	123,583	18,595	-	-			
	4,480,699	962,869	635,650	504,954	574,721	150,359	41,891	3,042	4,829	123,583	18,595	14,752,160				
	(1,133,493)	(479,696)	(488,102)	(375,845)	(315,894)	(106,200)	-	-	-	-	-	-	(3,918,969)			
	\$ 6,245,613	\$ 3,347,206	\$ 483,173	\$ 129,109	\$ 258,827	\$ 44,159	\$ 41,891	\$ 3,042	\$ 4,829	\$ 123,583	\$ 4,211	\$ -	\$ 10,833,191			

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ACCUMULATE REVENUE REQUIREMENTS BY CUSTOMER COMMUNITIES - TASK NO. 25
FISCAL YEAR ENDED JUNE 30, 2020

COST CENTER	RETAIL										WHOLESALE					TOTAL
	INTEGRATED SYSTEM	CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP	TOTAL			
OPERATION & MAINTENANCE EXPENSE - TASK NO. 22	\$ 21,204,018	\$ 6,304,357	\$ 1,249,703	\$ 869,461	\$ 669,889	\$ 891,766	\$ 105,495	\$ 100,379	\$ 12,016	\$ 3,071	\$ 67,750	\$ 13,096	\$ 31,491,001			
DEPRECIATION EXPENSE TASK NO. 24	6,245,613	3,347,206	483,173	147,548	129,109	258,827	44,159	41,891	3,042	4,829	123,583	4,211	10,833,191			
RETURN ON SYSTEM INVESTMENT TASK NO. 21	5,814,588	6,213,448	678,897	251,376	284,781	453,320	103,144	77,760	8,146	601	309,445	1,457	14,196,963			
REVENUE CREDITS - TASK NO. 23	(302,667)	(302,667)	(36,938)	(33,487)	(19,582)	(19,936)	(3,741)	(2,292)					(418,643)			
CSO DEBT SERVICE REQUIREMENTS ALLOCATE:	8,186,466	8,186,466											8,186,466			
INTEGRATED SYSTEM CREDITS	(1,557,693)	(1,557,693)	(265,985)	(350,037)	(170,296)	(114,894)	(17,970)	(9,352)	(105,402)	(88,952)			(2,697,078)			
INTEGRATED SYSTEM (A)	19,071,816	19,071,816	3,256,619	4,285,716	2,085,050	1,406,712	220,019	114,507	1,290,501	201,989	1,089,093	242,197	-			
LESS: CIRCUIT BREAKER (B)	-	-	(29,183)	(217,028)	(100,846)	-	-	(2,554)					(349,611)			
	\$ -	\$ 41,262,934	\$ 5,336,286	\$ 4,953,549	\$ 2,878,105	\$ 2,875,795	\$ 451,106	\$ 320,339	\$ 1,208,303	\$ 193,993	\$ 1,500,919	\$ 260,961	\$ 61,242,290			

(A) ALLOCATED TO CUSTOMER COMMUNITIES UNDER OLD CONTRACT BASIS OF PLANT FLOW. REMAINING ALLOCATION TO UAB PARTNERS UNDER UNIFORM SERVICE AGREEMENTS BASED ON PLANT FLOW & LAND, AS NOTED BELOW

COST CENTER	RETAIL					WHOLESALE					TOTAL		
	CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP		GAINES TOWNSHIP	TOTAL
OLD METHOD - PLANT FLOW	\$ 19,071,816	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 242,197	\$ 242,197
NEW METHOD - PLANT FLOW / LAND	\$ 19,071,816	\$ 3,256,619	\$ 4,285,716	\$ 2,085,050	\$ 1,406,712	\$ 220,019	\$ 114,507	\$ 1,290,501	\$ 201,989	\$ 1,089,093	\$ -	\$ -	\$ 33,022,022
	\$ 19,071,816	\$ 3,256,619	\$ 4,285,716	\$ 2,085,050	\$ 1,406,712	\$ 220,019	\$ 114,507	\$ 1,290,501	\$ 201,989	\$ 1,089,093	\$ 242,197	\$ -	\$ 33,264,219

(B) PURSUANT TO CITY AND CUSTOMER COMMUNITY CIRCUIT BREAKER, AS PROVIDED FOR BY THE THIRD AMENDMENT TO THE UNIFORM SERVICE AGREEMENTS

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 25A**

REVIEW THE REVENUE REQUIREMENTS TO ASSURE COMPLIANCE WITH THE APPLICABLE BOND ORDINANCE PROVISIONS.

	<u>YEAR ENDED</u> <u>6/30/20</u>	<u>PRO FORMA *</u> <u>6/30/21</u>
REVENUES:		
RETAIL/WHOLESALE SEWAGE SERVICE	\$ 56,178,456	\$ 59,546,490
CONNECTION FEES/FRONT FOOT FEES	562,180	425,000
SEWAGE SURCHARGES	2,393,466	2,131,500
OTHER OPERATING REVENUES	931,362	700,625
INTEREST ON INVESTMENTS	1,022,889	736,407
MISCELLANEOUS	(18,342)	25,000
TOTAL REVENUES	<u>\$ 61,070,010</u>	<u>\$ 63,565,022</u>
OPERATING EXPENSES:		
OPERATIONS & MAINTENANCE	\$ 30,245,847	\$ 31,146,074
DEPRECIATION	<u>15,478,452</u>	<u>15,478,452</u>
TOTAL EXPENSES	<u>\$ 45,724,299</u>	<u>\$ 46,624,526</u>
ADDITIONS: DEPRECIATION	<u>15,478,452</u>	<u>15,478,452</u>
NET EARNINGS OF THE SYSTEM	<u>\$ 30,824,163</u>	<u>\$ 32,418,948</u>
DEBT SERVICE		
SERIES 2020 BONDS	\$ -	\$ 1,642,448
SERIES 2018 BONDS	2,761,500	2,763,000
SERIES 2016 BONDS	3,881,750	3,885,000
SERIES 2014 BONDS	3,462,500	3,464,750
SERIES 2013 BONDS	2,031,000	2,036,600
SERIES 2012 BONDS	2,163,800	2,162,050
SERIES 2010A&B BONDS (after BAB subsidy)	1,281,762	958,138
SERIES 2010 BONDS	1,481,250	1,481,250
SERIES 1998 BONDS	<u>4,408,450</u>	<u>4,351,650</u>
SENIOR LIEN	21,472,012	22,744,886
JUNIOR LIEN **	469,624	466,374
TOTAL	<u>\$ 21,941,636</u>	<u>\$ 23,211,260</u>
COVERAGE RATIO - SENIOR DEBT	<u>1.44</u>	<u>1.43</u>
COVERAGE RATIO - ALL DEBT	<u>1.40</u>	<u>1.40</u>

* SEWAGE SERVICE ADJUSTED FOR RATE REVISIONS OF 3.49% AND 7.92% EFFECTIVE 1/1/20 AND 1/1/21, RESPECTIVELY; OTHER REVENUES AND OPERATIONS & MAINTENANCE EXPENSE PER 2020 FISCAL PLAN, ADJUSTED FOR CARRYFORWARDS & KNOWN COST ADJUSTMENTS.

** AMOUNTS IN PRO FORMA ARE BASED ON MAXIMUM PRINCIPAL AND DO NOT INCLUDE PRINCIPAL FORGIVENESS IF NOT YET FINALIZED.

SUMMARY

**SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26**

INITIAL SYSTEM REVENUE REQUIREMENTS		\$ 61,591,901
REVENUES FROM CURRENT RATES		
REU CHARGE	\$ 293,654	
MONTHLY METER CHARGE	18,233,653	
MONTHLY BILLING CHARGE	4,109,545	
COMMODITY CHARGE	<u>34,110,387</u>	<u>(56,747,239)</u>
INITIAL REQUIRED REVENUE INCREASE (DECREASE)		<u>\$ 4,844,662</u>
INITIAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>8.54%</u>
INITIAL SYSTEM REVENUE REQUIREMENTS FROM ABOVE		\$ 61,591,901
LESS: AMOUNT OF CIRCUIT BREAKER RELIEF TO REDUCE RR's TO RETAIL		(349,611)
SYSTEM REVENUE REQUIREMENTS		<u>\$ 61,242,290</u>
ACTUAL REQUIRED AMOUNT OF REVENUE INCREASE (DECREASE)		<u>\$ 4,495,051</u>
ACTUAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>7.92%</u>

SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 26

METER SIZE	EQUIV. FACTOR	CITY OF GR		CITY OF WALKER		CITY OF KENTWOOD		CASCADE TWP		GR TWP		TALLMADGE TWP		WRIGHT TWP	
		METERS*	EQUIV.	METERS*	EQUIV.	METERS*	EQUIV.	METERS*	EQUIV.	METERS*	EQUIV.	METERS*	EQUIV.	USERS*	REU
A 3/4" or less	1.0000	54,311	54,311	5,199	5,199	3,793	3,793	1,538	1,538	3,496	3,496	240	240	-	-
B 1"	1.7778	2,306	4,100	361	642	496	882	259	460	245	436	15	27	-	-
C 1 1/4"	2.7778	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D 1 1/2"	4.0000	1,001	4,004	164	656	335	1,340	163	652	91	364	10	40	-	-
E 2"	7.1111	666	4,736	83	590	183	1,301	62	441	27	192	3	21	-	-
F 3"	16.0000	107	1,712	6	96	19	304	9	144	8	128	2	32	-	-
G 4"	28.4444	78	2,219	9	256	17	484	3	85	2	57	-	-	-	-
H 6" and over	64.0000	33	2,112	6	384	4	256	1	64	6	384	2	128	-	-
Other- Wright Twp		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	231	422.500
TOTAL		58,502	73,194	5,828	7,823	4,847	8,360	2,035	3,384	3,875	5,057	272	488	231	422.500
															75,590

Source: City of Grand Rapids, Michigan, Water/Sewer Customer Accounts/Meters Report, dated November 1, 2020.

CITY OF GRAND RAPIDS, MICHIGAN

**SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS \$ 41,262,934

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

73,194 meter equivalents x \$ 14.21 x 12 = \$ 12,481,041

MONTHLY BILLING CHARGE

58,502 meters x \$ 3.85 x 12 = 2,702,792

COMMODITY CHARGE

6,556,199 units (100 CF) x \$ 3.58 = 23,471,192 (38,655,025)

REQUIRED REVENUE INCREASE (DECREASE) \$ 2,607,909

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 6.75%

CITY OF GRAND RAPIDS, MICHIGAN

**SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 27**

COMMODITY CHARGE:

$$\frac{\text{INTEGRATED SYSTEM COST}}{\text{BILLED UNITS}} = \frac{\$27,258,282}{6,556,199} = \underline{\underline{\$ 4.16 /100 \text{ CF}^*}}$$

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS \$ 41,262,934

NEW COMMODITY CHARGE
6,556,199 x \$ 4.16 \$ 27,273,788

NEW MONTHLY BILLING CHARGE
58,502 x \$ 3.43 x 12 2,407,942 (29,681,730)

\$ 11,581,204

$$\text{MONTHLY METER CHARGE} = \frac{\$11,581,204}{73,194 \times 12} = \underline{\underline{\$ 13.19 \text{ MONTHLY}}}$$

<u>METER SIZE</u>	<u>EQUIVALENT</u>	<u>MONTHLY SERVICE CHARGE</u>			<u>PRESENT</u>
		<u>METER</u>	<u>BILLING</u>	<u>TOTAL</u>	
3/4" or less	1.0000	\$ 13.19	\$ 3.43	\$ 16.62	\$ 18.06
1"	1.7778	23.45	3.43	26.88	29.11
1 1/4"	2.7778	36.64	3.43	40.07	43.32
1 1/2"	4.0000	52.76	3.43	56.19	60.69
2"	7.1111	93.80	3.43	97.23	104.90
3"	16.0000	211.04	3.43	214.47	231.21
4"	28.4444	375.18	3.43	378.61	408.04
6" and over	64.0000	844.16	3.43	847.59	913.29

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2021

CITY OF WALKER, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

SYSTEM REVENUE REQUIREMENTS *	\$	5,336,286
LESS: CASH CONTRIBUTION		<u>(90,871)</u>
SYSTEM REVENUE REQUIREMENTS	\$	<u>5,245,415</u>

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE
7,823 meter equivalents x \$ 25.76 x 12 = \$ 2,418,246

MONTHLY BILLING CHARGE
5,828 meters x \$ 3.85 x 12 = 269,254

COMMODITY CHARGE
837,882 units (100 CF) x \$ 2.64 = 2,212,008 (4,899,508)

REQUIRED REVENUE INCREASE (DECREASE) \$ 345,907

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 7.06%

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 29,183

CITY OF KENTWOOD, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

SYSTEM REVENUE REQUIREMENTS *		\$	4,953,549
REVENUES FROM CURRENT RATES			
MONTHLY METER CHARGE			
8,360 meter equivalents	x	\$ 4.34	x 12 = \$ 435,389
MONTHLY BILLING CHARGE			
4,847 meters	x	\$ 3.85	x 12 = 223,931
COMMODITY CHARGE			
1,384,133 units (100 CF)	x	\$ 2.73	= <u>3,778,683</u>
			<u>(4,438,003)</u>
REQUIRED REVENUE INCREASE (DECREASE)		\$	<u>515,546</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>11.62%</u>
* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF		\$	217,028

CASCADE TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

SYSTEM REVENUE REQUIREMENTS * \$ 2,878,105

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

3,384 meter equivalents x \$ 29.90 x 12 = \$ 1,214,179

MONTHLY BILLING CHARGE

2,035 meters x \$ 3.85 x 12 = 94,017

COMMODITY CHARGE

463,900 units (100 CF) x \$ 2.77 = 1,285,003 (2,593,199)

REQUIRED REVENUE INCREASE (DECREASE)

\$ 284,906

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES

10.99%

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 100,846

CASCADE TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 27

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 3.07 /100 CF *

\$ 2.77 x 110.99%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS **		\$ 2,878,105
NEW COMMODITY CHARGE		
463,900 x \$ 3.07		\$ 1,424,173
NEW MONTHLY BILLING CHARGE		
2,035 x \$ 3.43 x 12	83,761	(1,507,934)
		<u>\$ 1,370,171</u>

MONTHLY METER CHARGE = $\frac{\$1,370,171}{3,384 \times 12} = \underline{\underline{\$ 33.74 \text{ MONTHLY}}}$

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 33.74	\$ 3.43	\$ 37.17	\$ 33.75
1"	1.7778	59.98	3.43	63.41	57.01
1 1/4"	2.7778	93.72	3.43	97.15	86.91
1 1/2"	4.0000	134.96	3.43	138.39	123.45
2"	7.1111	239.93	3.43	243.36	216.47
3"	16.0000	539.84	3.43	543.27	482.25
4"	28.4444	959.71	3.43	963.14	854.34
6" and over	64.0000	2,159.36	3.43	2,162.79	1,917.45

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2021

** REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 100,846

GRAND RAPIDS TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

SYSTEM REVENUE REQUIREMENTS \$ 2,875,795

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

5,057 meter equivalents x \$ 25.35 x 12 = \$ 1,538,339

MONTHLY BILLING CHARGE

3,875 meters x \$ 3.85 x 12 = 179,025

COMMODITY CHARGE

381,350 units (100 CF) x \$ 2.47 = 941,935 (2,659,299)

REQUIRED REVENUE INCREASE (DECREASE) \$ 216,496

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 8.14%

TALLMADGE TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

SYSTEM REVENUE REQUIREMENTS		\$	451,106
REVENUES FROM CURRENT RATES			
MONTHLY METER CHARGE			
488 meter equivalents	x	\$ 25.01	x 12 =
			\$ 146,459
MONTHLY BILLING CHARGE			
272 meters	x	\$ 3.85	x 12 =
			12,566
COMMODITY CHARGE			
34,509 units (100 CF)	x	\$ 8.96	=
			<u>309,201</u>
			<u>(468,226)</u>
REQUIRED REVENUE INCREASE (DECREASE)		\$	<u>(17,120)</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>-3.66%</u>

WRIGHT TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

SYSTEM REVENUE REQUIREMENTS \$ 320,339

REVENUES FROM CURRENT RATES

REU CHARGE

422.500 meter equivalents x \$ 57.92 x 12 = \$ 293,654

MONTHLY METER CHARGE

422.500 meter equivalents x \$ - x 12 = -

MONTHLY BILLING CHARGE

231 meters x \$ - x 12 = -

COMMODITY CHARGE

26,178 units (100 CF) x \$ - = - (293,654)

REQUIRED REVENUE INCREASE (DECREASE) \$ 26,685

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 9.09%

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 2,554

WRIGHT TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 27

MONTHLY REU CHARGE:

$$\frac{\text{SYSTEM REVENUE REQUIREMENTS **}}{\text{TOTAL REU'S * 12 MONTHS}} = \frac{\$320,339}{422.500 \times 12} = \underline{\underline{\$ 63.18}} \quad \text{MONTHLY REU CHARGE *}$$

EXAMPLES OF APPROXIMATE MONTHLY CHARGE BY NUMBER OF REU:

<u>NUMBER OF REU</u>	<u>AMOUNT</u>	<u>NUMBER OF REU</u>	<u>AMOUNT</u>	<u>NUMBER OF REU</u>	<u>AMOUNT</u>
1.0000	\$ 63.18	7.5000	\$ 473.85	19.0000	\$ 1,200.42
1.5000	94.77	8.0000	505.44	20.0000	1,263.60
2.0000	126.36	8.5000	537.03	25.0000	1,579.50
2.5000	157.95	9.0000	568.62	30.0000	1,895.40
3.0000	189.54	9.5000	600.21	35.0000	2,211.30
3.5000	221.13	10.0000	631.80	40.0000	2,527.20
4.0000	252.72	11.0000	694.98	50.0000	3,159.00
4.4000	277.99	12.0000	758.16	60.0000	3,790.80
4.5000	284.31	13.0000	821.34	70.0000	4,422.60
5.0000	315.90	14.0000	884.52	80.0000	5,054.40
5.5000	347.49	15.0000	947.70	90.0000	5,686.20
6.0000	379.08	16.0000	1,010.88	100.0000	6,318.00
6.5000	410.67	17.0000	1,074.06	150.0000	9,477.00
7.0000	442.26	18.0000	1,137.24	200.0000	12,636.00

*NEW RATES EFFECTIVE ON JANUARY 1, 2021

**REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 2,554

CITY OF EAST GRAND RAPIDS, MICHIGAN

**SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26**

INTEGRATED SYSTEM REVENUE REQUIREMENTS				\$ 1,185,099
COMMODITY CHARGE				
	467.018 units	x	\$ 2,068.00	965,793
				<hr/>
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)				<u>\$ 219,306</u>
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS				\$ 23,204
MONTHLY SERVICE CHARGE				
	\$2,213	x	12 MONTHS	26,556
				<hr/>
REQUIRED SERVICE REVENUE INCREASE (DECREASE)				<u>\$ (3,352)</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES				<u>21.76%</u>

CITY OF EAST GRAND RAPIDS, MICHIGAN

**SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 27**

SYSTEM REVENUE REQUIREMENTS	\$ 1,208,303
NEW COMMODITY CHARGE *	
467.018 x \$ 2,538.00 =	(1,185,292)
	<hr/>
	<u>\$ 23,011</u>

MONTHLY SERVICE CHARGE * = \$ 23,011 / 12 = \$1,918

* NEW RATES EFFECTIVE ON JANUARY 1, 2021

CALEDONIA TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 185,492
COMMODITY CHARGE		
28.122 units x \$ 5,115.00		143,844
		143,844
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$ 41,648
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 8,501
MONTHLY SERVICE CHARGE		
\$739 x 12 MONTHS		8,868
		8,868
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$ (367)
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		27.03%

CALEDONIA TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 27

SYSTEM REVENUE REQUIREMENTS	\$ 193,993
NEW COMMODITY CHARGE * 28.122 x \$ 6,596.00 =	(185,493)
	<hr/>
	<u>\$ 8,500</u>

MONTHLY SERVICE CHARGE * = \$ 8,500 / 12 = \$708

* NEW RATES EFFECTIVE ON JANUARY 1, 2021

ADA TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 1,000,141
COMMODITY CHARGE		
293.525 units x \$ 2,721.00		798,682
		798,682
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$ 201,459
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 500,778
MONTHLY SERVICE CHARGE		
\$47,747 x 12 MONTHS		572,964
		572,964
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$ (72,186)
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		9.42%

ADA TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 27

SYSTEM REVENUE REQUIREMENTS	\$ 1,500,919
NEW COMMODITY CHARGE *	
293.525 x \$ 3,407.00 =	(1,000,040)
	<hr/>
	<u>\$ 500,879</u>

MONTHLY SERVICE CHARGE * = \$ 500,879 / 12 = \$41,740

* NEW RATES EFFECTIVE ON JANUARY 1, 2021

GAINES TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 242,197
COMMODITY CHARGE		
122.183 units x \$ 1,670.00		204,046
		204,046
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$ 38,151
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 18,764
MONTHLY SERVICE CHARGE		
\$1,631 x 12 MONTHS		19,572
		19,572
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$ (808)
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		16.70%

GAINES TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 27

SYSTEM REVENUE REQUIREMENTS	\$ 260,961
NEW COMMODITY CHARGE *	
122.183 x \$ 1,982.00 =	(242,167)
	<hr/>
	<u>\$ 18,794</u>

MONTHLY SERVICE CHARGE * = \$ 18,794 / 12 = \$1,566

* NEW RATES EFFECTIVE ON JANUARY 1, 2021

SEWER RATE STUDY
 SEWAGE DISPOSAL SYSTEM FUND
 RE-EVALUATE FRONT FOOT CHARGES
 TASK NO. 28

The City Engineer's Office has reviewed recent construction costs for sanitary sewer facilities and recommends the following front foot assessment rates:

Sewer User Type	Definition	2020 Rate	2021 Rate	% Change
Domestic	Property is domicile for single or multiple family use, such as homes, apartments, duplexes, condominium, etc.	\$ 105.00	\$ 108.00	2.86%
Commercial - Industrial	Property used to offer services and / or products, such as retail/wholesale stores, gas stations, restaurants, hotels, schools, churches, etc., and manufacturing or processing facilities (industrial).	\$ 141.00	\$ 138.00	-2.13%

SEWER RATE STUDY
 SEWAGE DISPOSAL SYSTEM FUND
 EVALUATE SEWER LATERAL CHARGES
 TASK NO. 29

The City Engineer’s Office has evaluated the recent costs for a six inch (6”) sanitary sewer lateral and recommends the following sanitary sewer lateral charges:

R.O.W. Width	Year	Lateral Charge	% Change
50 feet	2020	\$2,900	5.17%
	2021	\$3,050	
60 feet	2020	\$3,400	5.88%
	2021	\$3,600	
66 feet	2020	\$3,700	6.76%
	2021	\$3,950	
80 feet	2020	\$4,400	6.82%
	2021	\$4,700	
100 feet	2020	\$5,400	7.41%
	2021	\$5,800	

MEMORANDUM

CITY OF GRAND RAPIDS

Date: November 2, 2020

To: Jenessa Carter
Acting Utility Financial Officer

From: William R. Kaiser
Acting Assistant Environmental Service Manager

Subject: **Sewer Rate Study – Task #30 - Surcharges**

The Water Resource Recovery Facility (WRRF) has a limited amount of capacity which is typically allocated to industries having discharges exceeding ordinance limits. These industries are charged for utilizing this remaining plant capacity in four categories of conventional pollutants. These pollutants are: 1) Biochemical Oxygen Demand (BOD); 2) Total Suspended Solids (TSS); 3) Total Phosphorus (Phos); 4) and Ammonia Nitrogen (NH₃). This benefits the industries in that it reduces their pretreatment requirements and benefits the system by utilizing available system capacity.

As shown on the attached sheets, the surcharge methodology includes evaluating various cost centers at the Water Resource Recovery Facility and allocating costs based on unit process operating cost. Cumulative costs can then be allocated to the four conventional pollutant categories identified above to determine appropriate surcharge rates.

The WRRF also accepts domestic septage portable toilet waste and concentrated waste on site. The following fees covers costs associated with permit administration, receiving facility operation and maintenance, analytical testing, treatment and disposal of the waste.

Septage Portable Toilet Waste

- \$500 annual discharge authorization permit fee.
- \$100 per 1,000 gallons discharged.

Concentrated Waste

- \$1,000 annual discharge authorization permit fee for Permitted Significant Industrial Users within the service area.
- \$2,000 annual discharge authorization permit fee for customers outside the service area.
- \$1,000 each for waste stream characterization and compatibility evaluation.
- \$45 per 1,000 gallons discharged for customers within the service area.
- \$60 per 1,000 gallons discharged for customers outside the service area.

Pumped or Hauled Municipal EQ Biosolids

- \$1,500 annual discharge authorization permit fee
- \$1,000 each for Biosolids characterization and compatibility evaluation.
- \$80 per dry ton discharged for customers within the service area.
- \$100 per dry ton discharged for customers outside the service area.

City of Grand Rapids Michigan
Sewage Disposal System Fund
Evaluation of Wastewater Surcharges for Industrial Customers- BOD, TSS, Phos & NH3
TASK NO. 30- Part 1

Description	Rate Study Year		Wastewater Surcharges						
	2020	2021	Volume	BOD	TSS	Phos	NH3	Industrial	Other
Operation & Maintenance (See Part 2)	\$ 31,337,983		\$ 4,834,353	\$ 4,907,358	\$ 6,030,112	\$ 1,092,491	\$ 547,936	\$ 803,723	\$ 13,122,010
Depreciation (See Part 3)	10,833,191		1,734,095	1,760,201	2,162,918	391,850	196,549	-	4,587,578
Return on System Investment (See Part 3)	14,196,963		1,614,421	1,638,725	2,013,650	364,807	182,985	-	8,382,375
Total	\$ 56,368,138		\$ 8,182,869	\$ 8,306,284	\$ 10,206,680	\$ 1,849,148	\$ 927,470	\$ 803,723	\$ 26,091,963

Recommended Surcharge Rate - 2021

\$ 0.362 \$ 0.569 \$ 3.488 \$ 0.356

Actual Surcharge Rate - 2020

\$ 0.301 \$ 0.489 \$ 2.873 \$ 0.299

Change in Surcharge Rate - Amount- 2020 to 2021

\$ 0.061 \$ 0.080 \$ 0.615 \$ 0.057

Change in Surcharge Rate - Percent- 2020 to 2021

20.27% 16.36% 21.41% 19.06%

Loadings - lb/day (Per W.R.Kaiser) *

62,791 49,184 1,452 7,136

22,918,837 17,952,160 530,102 2,604,640

* Loadings are the average of the last three years.

Task No. 30 - Part 2

City of Grand Rapids Michigan
 Sewage Disposal System Fund
 Evaluation of High Strength Surcharges- BOD, TSS, Phos & NH3
 Allocation of Operation & Maintenance Expense & Determination of WWTP Allocation Factors

	Primary Allocation		See Task 30 - Part 4 Allocation Basis	Line No. Ref.	Component Allocation (3)								
	Base Year- 2020 Allocation (1)	Calendar Year- 2021 Allocation (2)			BOD	TSS	Phos	NH3	Industrial	Other			
Wastewater Treatment Plant													
Pre-Treatment	\$ 1,167,145	\$ 1,407,420	WWTP	(1)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Primary Treatment	1,757,535	2,119,350	WWTP	(2)	635,805	1,271,610	-	211,935	-	-	-	-	-
Secondary Treatment	2,808,147	3,386,247	WWTP	(3)	1,354,499	507,937	507,937	169,312	-	-	-	-	-
Disinfection/Dechlorination	1,102,166	1,329,064	WWTP	(4)	-	-	-	-	-	-	-	-	-
Phosphorus Removal	693,054	835,730	WWTP	(5)	-	-	417,865	-	-	-	-	-	-
Residue Handling/Disposal	6,911,586	8,334,440	WWTP	(6)	2,917,054	4,250,565	166,689	166,689	-	-	-	-	-
	\$ 14,439,633	\$ 17,412,251			\$ 4,907,358	\$ 6,030,112	\$ 1,092,491	\$ 547,936	\$ -	\$ -	\$ -	\$ -	\$ -
Lift Stations													
Interceptor		240,027	Collection	(11)	-	-	-	-	-	-	-	-	240,027
Trunk		189,234	Collection	(11)	-	-	-	-	-	-	-	-	189,234
Local Collector		633,971	Collection	(11)	-	-	-	-	-	-	-	-	633,971
Sewer Lines													
Interceptor		244,791	Collection	(11)	-	-	-	-	-	-	-	-	244,791
Trunk		557,716	Collection	(11)	-	-	-	-	-	-	-	-	557,716
Local Collector		3,932,324	Collection	(11)	-	-	-	-	-	-	-	-	3,932,324
Bulk Meter Stations		4,649	Collection	(7)	-	-	-	-	-	-	-	-	4,649
Customer Accounting		3,108,878	Admin	(8)	-	-	-	-	-	-	-	-	3,108,878
Industrial Pretreatment		803,723	Industry	(9)	-	-	-	-	-	-	-	803,723	-
Subtotal		\$ 27,127,564			\$ 4,907,358	\$ 6,030,112	\$ 1,092,491	\$ 547,936	\$ 803,723	\$ 8,911,590	\$ -	\$ 4,210,420	\$ -
Admin		4,210,420	Admin	(10)	-	-	-	-	-	-	-	-	4,210,420
Total		\$ 31,337,983			\$ 4,907,358	\$ 6,030,112	\$ 1,092,491	\$ 547,936	\$ 803,723	\$ 13,122,010	\$ -	\$ -	\$ -
WWTP Allocation Factors		100.000%			28.183%	34.631%	6.274%	3.147%	0.000%	0.000%	0.000%	0.000%	0.000%

(1) Per W.R. Kaiser 11/02/20
 (2) Primary Allocation of Current Year for Calendar 2021, based on 2020 Base Year.
 (3) - (11) Refer to Task 30- Part 4 as noted.

Task No. 30 - Part 3

**City of Grand Rapids Michigan
Sewage Disposal System Fund
Evaluation of High Strength Surcharges- BOD, TSS, Phos & NH3
Allocation of Depreciation Expense & Return on System Investment**

Depreciation Expense- Task 24

Description	Amount	Volume	Wastewater Surcharges				Industrial	Other
			BOD	TSS	Phos	NH3		
Integrated System (1)	\$ 6,245,613	\$ 1,734,095	\$ 1,760,201	\$ 2,162,918	\$ 391,850	\$ 196,549	\$ -	\$ -
Other	4,587,578	-	-	-	-	-	4,587,578	-
Total	\$ 10,833,191	\$ 1,734,095	\$ 1,760,201	\$ 2,162,918	\$ 391,850	\$ 196,549	\$ 4,587,578	\$ 4,587,578

Return on System Investment- Task 21

Description	Amount	Volume	Wastewater Surcharges				Industrial	Other
			BOD	TSS	Phos	NH3		
Integrated System (1)	\$ 5,814,588	\$ 1,614,421	\$ 1,638,725	\$ 2,013,650	\$ 364,807	\$ 182,985	\$ -	\$ -
Other	8,382,375	-	-	-	-	-	8,382,375	-
Total	\$ 14,196,963	\$ 1,614,421	\$ 1,638,725	\$ 2,013,650	\$ 364,807	\$ 182,985	\$ 8,382,375	\$ 8,382,375

(1) Allocated on WWTP Allocation Factors * 27.7650% 28.1830% 34.6310% 6.2740% 3.1470%

*** Refer to Task No. 30 - Part 2**

Task No. 30 - Part 4

City of Grand Rapids Michigan
Sewage Disposal System Fund
Evaluation of High Strength Surcharges- BOD, TSS, Phos & NH3
Functional Cost Allocation Factors

Line No. Ref.	Cost Function	Total %	Allocation Basis	Volume %	Wastewater Surcharges					Other %
					BOD %	TSS %	Phos %	NH3 %	Industrial %	
(1)	Pre-Treatment	100.000%	WWTP	100.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
(2)	Primary Treatment	100.000%	WWTP	0.000%	30.000%	60.000%	0.000%	10.000%	0.000%	0.000%
(3)	Secondary Treatment	100.000%	WWTP	25.000%	40.000%	15.000%	15.000%	5.000%	0.000%	0.000%
(4)	Disinfection/Dechlorination	100.000%	WWTP	100.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
(5)	Phosphorus Removal	100.000%	WWTP	50.000%	0.000%	0.000%	50.000%	0.000%	0.000%	0.000%
(6)	Residue Handling/Disposal	100.000%	WWTP	10.000%	35.000%	51.000%	2.000%	2.000%	0.000%	0.000%
(7)	Bulk Metering Stations	100.000%	Collection	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	100.000%
(8)	Customer Accounting	100.000%	Admin	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	100.000%
(9)	Industrial Pretreatment	100.000%	Industry	0.000%	0.000%	0.000%	0.000%	100.000%	0.000%	0.000%
(10)	Admin	100.000%	Admin	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	100.000%
(11)	Collection System	100.000%	Collection	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	100.000%

(a) With the exception of phosphorus removal, foregoing based on "Final Allocation Table" in August 1, 2003 memo from Randall Fisher & Mike Lunn to Eric DeLong regarding 2001 Surcharge Rate Evaluation. Evaluation by WWTP staff for 2013 RS Review concluded percentages for phosphorus removal shall remain allocated 50/50 to the categories above, as initially recommended in the 2006 RS Review, to recommend 2020 RS adjustments.

**City of Grand Rapids Michigan
Sewage Disposal System Fund
Concentrated Waste Surcharge Adjustment
TASK NO. 30A**

Description	Operational Costs			Surcharge Adjustment		
	BOD	Phos	NH3	BOD	Phos	NH3
Operation & Maintenance (1)(2)	\$ 4,907,358	\$ 1,092,491	\$ 547,936	\$ 98,147	\$ 21,850	\$ 10,959
Disinfection/Dechlorination (1)(3)	\$ 1,329,064	\$ 3,378	\$ 413,749	\$ 18,239	\$ 68	\$ 8,275
Total	\$ 5,819,295	\$ 1,095,869	\$ 961,685	\$ 116,386	\$ 21,917	\$ 19,234
Proposed Concentrated Waste Adjustment				\$ 0.118	\$ 6.005	\$ 0.043
Recommended Surcharge Rate - 2021				\$ 0.362	\$ 3.488	\$ 0.356

Surcharge with Adjustment

Concentrated Waste Loadings - lb/day	2,700	10	1,225
Concentrated Waste Loadings - lb/year	985,500	3,650	447,125

(1) Surcharge Adjustment:
 Surcharge Adjustment = (Base Year Peaking Factor - Current Year Peaking Factor)*(1 - Fixed Costs)
 Base Year Peaking Factor 1.33
 Current Year Peaking Factor Adjustment 1.28
 Fixed Cost 60%
 Concentrated Waste Adjustment Factor **2.0%**

(2) Operations & Maintenance cost is from Task 30 - Part 2, Total amount of BOD, Phos, & NH3. This is allocated based on the Surcharge Adjustment Factor - see footnote 1.

(3) Disinfection cost is from Task 30 - Part 2, 2020 allocation for WWTP. This is allocated based on the Surcharge Adjustment Factor - see footnote 1.

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CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
IPP PERMIT FEE STRUCTURE – TASK NO. 31

The City of Grand Rapids Industrial Pretreatment Program (IPP) Permit fee structure is based on the actual cost of administration and implementation. Administration includes all the costs associated with document generation and handling as well as one annual site visit. The implementation costs include all sampling and associated laboratory analyses required by the permit. These two fees are identified on permit documents as a Permit Fee and an Analytical Fee.

Permit Fee: This fee is based on the actual costs associated with administering the permit program, including time spent on permit required inspections, clerical requirements, data handling requirements and all trunkline monitoring. This fee will be specific to the costs associated with the permit category.

Analytical Fee: This fee is based on actual costs associated with each permit. The costs, and an explanation of how they are determined, are outlined in an accompanying attachment. Labor time, including sampling and sample delivery to our laboratory, was derived from experience:

Composite samples:	1.5 hours each
Grab samples:	1.0 hours each

Four examples of analytical fees are attached herewith.

City of Grand Rapids
Cost of Services Provided by IPP

	FY	FY21	
		\$	400.00
Permit Fee:			
IPP Costs:			
	Labor:	\$	68.09 per hour
	Vehicle:	\$	4.06 per hour
	Sampler:	\$	35.00 per day
IPP Accounting:			
	Composite Labor:		1.5 hours per sample
	Grab Sample Labor:		1.0 hours per sample
Laboratory Costs:			
	metals	\$	5.00 ea.
	TSS	\$	7.00 ea.
	BOD	\$	12.00 ea.
	COD	\$	12.00 ea.
	Total Phosphorus	\$	16.00 ea.
	pH	\$	5.00 ea.
	EPA 624.1	\$	50.00 ea.
	EPA 625.2	\$	125.00 ea.
	BTEX/MTBE	\$	35.00 ea.
	sulfide	\$	19.00 ea.
	oil & grease	\$	20.00 ea.
	total cyanide	\$	18.00 ea.
	hex chrome	\$	20.00 ea.
	fecal coliform	\$	20.00 ea.
	Ammonia	\$	12.00 ea.
	Mercury (EPA 245.1 or 245.2)	\$	15.00 ea.
	Pesticides and PCBs EPA 608	\$	90.00 ea.
	PCBs	\$	45.00 ea.
	Phenols, Total	\$	18.00 ea.
	PFAS EPA 537 Modified	\$	245.00 ea.
	(sample, duplicate and blank)		
	PFAS by LCMSMS	\$	285.00 ea.
	(sample, duplicate and blank)		

Explanation of Costs:

Labor: Labor is the hourly pay rate of a Water Pollution Control Inspector (classification 21A @ "F" step = to \$34.0472 x 2) per the latest agreement between the City of Grand Rapids and the Grand Rapids Employees Independent Union plus 100% as specified in section 2.81(1) of the City of Grand Rapids Sewage Disposal System Ordinance. If personnel in a different classification are required, time will be billed based on that classification' pay scale plus 100%.

Vehicle: Hourly rate is the actual cost charged to City departments for vehicle use plus 25% for overhead.

Sampler: Sampler costs are based on the most recently approved competitive bid obtained for contract work provided to the Grand Rapids Wastewater Treatment Plant's Laboratory.

Analysis: Laboratory costs are based on the most recently approved competitive bid obtained for contract work provided to the Grand Rapids Wastewater Treatment Plant's Laboratory.

Permit No: Example 1

Company: Typical Metal Finisher 4 day sampling
Facility Address:
City, State, Zip

Permit Fee: \$ 400.00
Analytical Fee: \$ 960.93
Amount Due: \$ 1,360.93

Composite Samples: 4

IPP Requirements: man hours = 6.0 x \$ 68.09 = \$ 408.57
sampler days = 4.0 x \$ 35.00 = \$ 140.00
vehicle hours = 6.0 x \$ 4.06 = \$ 24.36

Total IPP Composite Costs: \$ 572.93

Laboratory Analysis:
(each composite)
metals 7 x \$ 5.00 = \$ 35.00
TSS 1 x \$ 7.00 = \$ 7.00
BOD x \$ 12.00 = \$ -
total phosphate x \$ 12.00 = \$ -
pH x \$ 16.00 = \$ -
EPA 625 x \$ 50.00 = \$ -
sulfide x \$ 35.00 = \$ -
oil & grease x \$ 19.00 = \$ -
hex chrome x \$ 18.00 = \$ -
fecal coliform x \$ 20.00 = \$ -
other x = \$ -

total per composite: \$ 42.00

Total Laboratory Composite Costs: \$ 168.00

Total Composite Sample Costs: \$ 740.93

Grab Samples: 4

IPP Requirements: man hours = 0.0 x \$ 68.09 = \$ -
vehicle hours = 0.0 x \$ 4.06 = \$ -

Total IPP Grab Costs: \$ -

Laboratory Analysis:
(each grab)
metals x \$ 5.00 = \$ -
TSS x \$ 7.00 = \$ -
BOD x \$ 12.00 = \$ -
total phosphate x \$ 12.00 = \$ -
pH 1 x \$ 16.00 = \$ 16.00
EPA 624 x \$ 5.00 = \$ -
EPA 625 x \$ 50.00 = \$ -
BTEX/MTBE x \$ 125.00 = \$ -
sulfide x \$ 35.00 = \$ -
oil & grease 1 x \$ 19.00 = \$ 19.00
total cyanide 1 x \$ 20.00 = \$ 20.00
hex chrome x \$ 18.00 = \$ -
fecal coliform x \$ 20.00 = \$ -
other x = \$ -

total per grab: \$ 55.00

Total Laboratory Grab Costs: \$ 220.00

Total Grab Sample Costs: \$ 220.00

Total Analytical Permit Costs: \$ 960.93

Permit No: Example 2

Company: Litho Process
Facility Address:
City, State, Zip

Permit Fee: \$ 400.00
Analytical Fee: \$ 185.23
Amount Due: \$ 585.23

Composite Samples: 1

IPP Requirements: man hours = 1.5 x \$ 68.09 = \$ 102.14
sampler days = 1.0 x \$ 35.00 = \$ 35.00
vehicle hours = 1.5 x \$ 4.06 = \$ 6.09

Total IPP Composite Costs: \$ 143.23

Laboratory Analysis: (each composite)
metals x \$ 5.00 = \$ -
TSS 1 x \$ 7.00 = \$ 7.00
BOD x \$ 12.00 = \$ -
total phosphate x \$ 12.00 = \$ -
pH x \$ 16.00 = \$ -
EPA 625 x \$ 50.00 = \$ -
sulfide x \$ 35.00 = \$ -
oil & grease x \$ 19.00 = \$ -
hex chrome x \$ 18.00 = \$ -
fecal coliform x \$ 20.00 = \$ -
other x = \$ -

total per composite: \$ 7.00

Total Laboratory Composite Costs: \$ 7.00

Total Composite Sample Costs: \$ 150.23

Grab Samples: 1

IPP Requirements: man hours = 0.0 x \$ 68.09 = \$ -
vehicle hours = 0.0 x \$ 4.06 = \$ -

Total IPP Grab Costs: \$ -

Laboratory Analysis: (each grab)
metals x \$ 5.00 = \$ -
TSS x \$ 7.00 = \$ -
BOD x \$ 12.00 = \$ -
total phosphate x \$ 12.00 = \$ -
pH 1 x \$ 16.00 = \$ 16.00
EPA 624 x \$ 5.00 = \$ -
EPA 625 x \$ 50.00 = \$ -
BTEX/MTBE x \$ 125.00 = \$ -
sulfide x \$ 35.00 = \$ -
oil & grease 1 x \$ 19.00 = \$ 19.00
total cyanide x \$ 20.00 = \$ -
hex chrome x \$ 18.00 = \$ -
fecal coliform x \$ 20.00 = \$ -
other x = \$ -

total per grab: \$ 35.00

Total Laboratory Grab Costs: \$ 35.00

Total Grab Sample Costs: \$ 35.00

Total Analytical Permit Costs: \$ 185.23

Permit No: Example 3

Company: Stripping Process
Facility Address:
City, State, Zip

Permit Fee: \$ 400.00
Analytical Fee: \$ 139.15
Amount Due: \$ 539.15

Composite Samples:

IPP Requirements: man hours = 0.0 x \$ 68.09 = \$ -
sampler days = 0.0 x \$ 35.00 = \$ -
vehicle hours = 0.0 x \$ 4.06 = \$ -

Total IPP Composite Costs: \$ -

Laboratory Analysis:
(each composite)
metals x \$ 5.00 = \$ -
TSS x \$ 7.00 = \$ -
BOD x \$ 12.00 = \$ -
total phosphate x \$ 12.00 = \$ -
pH x \$ 16.00 = \$ -
EPA 625 x \$ 50.00 = \$ -
sulfide x \$ 35.00 = \$ -
oil & grease x \$ 19.00 = \$ -
hex chrome x \$ 18.00 = \$ -
fecal coliform x \$ 20.00 = \$ -
other x = \$ -

total per composite: \$ -

Total Laboratory Composite Costs: \$ -

Total Composite Sample Costs: \$ -

Grab Samples: 1

IPP Requirements: man hours = 1.0 x \$ 68.09 = \$ 68.09
vehicle hours = 1.0 x \$ 4.06 = \$ 4.06

Total IPP Grab Costs: \$ 72.15

Laboratory Analysis:
(each grab)
metals 5 x \$ 5.00 = \$ 25.00
TSS 1 x \$ 7.00 = \$ 7.00
BOD x \$ 12.00 = \$ -
total phosphate x \$ 12.00 = \$ -
pH 1 x \$ 16.00 = \$ 16.00
EPA 624 x \$ 5.00 = \$ -
EPA 625 x \$ 50.00 = \$ -
BTEX/MTBE x \$ 125.00 = \$ -
sulfide x \$ 35.00 = \$ -
oil & grease 1 x \$ 19.00 = \$ 19.00
total cyanide x \$ 20.00 = \$ -
hex chrome x \$ 18.00 = \$ -
fecal coliform x \$ 20.00 = \$ -
other x = \$ -

total per grab: \$ 67.00

Total Laboratory Grab Costs: \$ 67.00

Total Grab Sample Costs: \$ 139.15

Total Analytical Permit Costs: \$ 139.15

Permit No: Example 4

Company: Surcharge facility
Facility Address:
City, State, Zip

Permit Fee: \$ 400.00
Analytical Fee: \$ 428.62
Amount Due: \$ 828.62

Composite Samples:

IPP Requirements: man hours = 0.0 x \$ 68.09 = \$ -
sampler days = 0.0 x \$ 35.00 = \$ -
vehicle hours = 0.0 x \$ 4.06 = \$ -

Total IPP Composite Costs: \$ -

Laboratory Analysis:
(each composite)
metals x \$ 5.00 = \$ -
TSS x \$ 7.00 = \$ -
BOD x \$ 12.00 = \$ -
total phosphate x \$ 12.00 = \$ -
pH x \$ 16.00 = \$ -
EPA 625 x \$ 50.00 = \$ -
sulfide x \$ 35.00 = \$ -
oil & grease x \$ 19.00 = \$ -
hex chrome x \$ 18.00 = \$ -
fecal coliform x \$ 20.00 = \$ -
other x = \$ -

total per composite: \$ -

Total Laboratory Composite Costs: \$ -

Total Composite Sample Costs: \$ -

Grab Samples: 4

IPP Requirements: man hours = 4.0 x \$ 68.09 = \$ 272.38
vehicle hours = 4.0 x \$ 4.06 = \$ 16.24

Total IPP Grab Costs: \$ 288.62

Laboratory Analysis:
(each grab)
metals x \$ 5.00 = \$ -
TSS x \$ 7.00 = \$ -
BOD x \$ 12.00 = \$ -
total phosphate x \$ 12.00 = \$ -
pH 1 x \$ 16.00 = \$ 16.00
EPA 624 x \$ 5.00 = \$ -
EPA 625 x \$ 50.00 = \$ -
BTEX/MTBE x \$ 125.00 = \$ -
sulfide x \$ 35.00 = \$ -
oil & grease 1 x \$ 19.00 = \$ 19.00
total cyanide x \$ 20.00 = \$ -
hex chrome x \$ 18.00 = \$ -
fecal coliform x \$ 20.00 = \$ -
other x = \$ -

total per grab: \$ 35.00

Total Laboratory Grab Costs: \$ 140.00

Total Grab Sample Costs: \$ 428.62

Total Analytical Permit Costs: \$ 428.62

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: August 31, 2020

TO: Jenessa Carter
Acting Utility Financial Officer

FROM: Arden Postma, P.E.
Hydraulic Engineer

SUBJECT: **2020 SEWER RATE STUDY- TASK #32 - SANITARY SEWER
OVERSIZING RATES**

Sanitary Sewer oversizing rates are established for this year as noted below:

<u>Pipe Size</u>	<u>2020 Rate</u>	<u>2021 Rate</u>	<u>% Change</u>
8"-10"	\$4.37/ft	\$4.77/ft	9.15%
8"-12"	\$9.12/ft	\$9.98/ft	9.43%
8"-15"	\$17.55/ft	\$18.95/ft	7.98%
10"-12"	\$4.75/ft	\$5.21/ft	9.68%
10"-15"	\$13.18/ft	\$14.18/ft	7.59%
12"-15"	\$8.43/ft	\$8.97/ft	6.41%

These rates have been determined in accordance with the Sewer Disposal System Rules and Regulations, and are approved for use from January 1, 2021 through December 31, 2021. Background information and calculations to establish these rates are on file in the Utility Engineering, Distribution and Collection Office located at 1900 Oak Industrial Drive NE. If you have any questions regarding this matter, please call me at 456-4201.

AP
Cc: Mike Grenier
Charles Schroeder

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 33**

SERVICE AREA MAPS AND SERVICE AREA LAND MASS SUMMARIES

The following summarizes Utility Service Districts (USD) land mass square miles for UAB partner communities, per information on file as of September 14, 2020:

UAB Partners	Sq. Miles of USD by CC	Percent
Grand Rapids	45.36	37.157%
Walker	20.94	17.153%
Kentwood	14.37	11.771%
Cascade	16.81	13.767%
Grand Rapids Township	8.14	6.664%
Tallmadge Township	2.45	2.007%
Wright Township	0.89	0.729%
East Grand Rapids	3.37	2.760%
Ada	7.26	5.944%
Caledonia Township	2.50	2.048%
Total	122.08	100.000%

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 34**

INDIVIDUAL CIRCUIT BREAKER AND CITY & CUSTOMER COMMUNITY CIRCUIT BREAKER

The Third Amendment to the Water and Sanitary Sewer Agreements stipulates penalty fees shall be used to fund the circuit breaker provisions noted above. The following summarizes those values:

<u>Description</u>	<u>AMOUNT</u>	<u>PERCENT</u>
Individual Circuit Breaker (ICB)	\$ 49,944	12.50%
City & Customer Community Circuit Breaker (CCCCB)	349,611	87.50%
Total	<u>\$ 399,555</u>	<u>100.00%</u>

The following tables summarize the amount, if any, of the Circuit Breaker to be applied as a revenue credit in next year's Rate Study:

<u>Description</u>	<u>AMOUNT</u>	<u>PERCENT</u>
City & Customer Community Circuit Breaker Amount- Above	\$ 349,611	100.00%
Less: Amount Applied in Current Rate Study	<u>(349,611)</u>	<u>-100.00%</u>
Total CCCCCB Revenue Credit- Next Year's Rate Study	<u>\$ 0</u>	<u>0.00%</u>

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MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 14, 2020

TO: Jenessa Carter
Acting Utility Financial Officer

FROM: Charles Schroeder, P.E.
Assistant Environmental Services Manager

SUBJECT: 2020 SEWER RATE STUDY - TASK #35 - FDD Opt Out Charge

The Footing Drain Disconnection Ordinance (FDD) Authorizes the City Manager or his designee to identify FDD Project Areas within the City of Grand Rapids based on the severity of System groundwater and stormwater inflow surcharge problems. Once designated, the ordinance requires homeowners within the FDD Project Areas to disconnect their footing drains from the City's sanitary sewer system at City expense.

The additional charge for non-compliance with the footing drain disconnection ordinance has been calculated based on current information and is recommended to be \$73.44 / month which is the actual cost to the system for the additional flow.

CRS

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWER SUPPLY SYSTEM FUND
TASK NO. 35**

DETERMINE FOOTING DRAIN OPT OUT SEWER RATE.

1. Avoided Claims for Sewage Backups

Annual claim costs

Annual Backup Claims	\$150,000 /year ¹	Estimated annual claims cost
System Retail Customers	75,590	Total retail customers ²
Grand Rapids Retail Customers	<u>58,502</u>	Total retail customers in Grand Rapids ²
Annual Cost	\$1.98 /yr/cust.	Annual cost for claims in Grand Rapids

2. Avoided Costs to treat the additional flow generated by footing drains

Flow Estimate

DWF	43,800 gal/year	Average generation rate
WWF	<u>21,796</u> gal/year	Average generation rate
Total	65,596 gal/year	Average per house

Unit Conveyance & Treatment Costs

Annual average FD flows	0.065596 MG/yr	Average per house
Conveyance	\$363 /MG	Unit conveyance cost ³
Treatment	<u>\$1,010</u> /MG	Unit treatment cost ³
Conveyance & Treatment	\$1,373 /MG	
Annual Cost	\$90.06 /yr/cust.	Annual cost for a connected FD

3. Actual MDNRE penalties for SSO's

Penalties for SSO

Grand Rapids Customers	58,502	
Penalties	\$25,000	Per occurrence
Potential SSOs	0 /year	Occurrences
Annual cost	<u>0</u> \$/year	
	\$0.00 /yr/cust.	Annual cost for penalties

4. Avoided Transport & Future Projects

Cost Per FDD

Pilot Project Costs	1,788 \$/yr/FDD cust.	Annual cost of FDD work ⁵
FDD Equivalents	<u>25,598</u> FDD	FDDs needed to correct backup problems
Total Cost	\$45,769,224	Annualized Conveyance and Storage Costs
Grand Rapids Customers	<u>58,502</u>	Customers in Grand Rapids
Cost Per single Family Home	\$782.35 \$/home/not removed	Annualized cost for Grand Rapids Customers

5. Avoided Administrative (Engineering & Legal) Costs

Associated with Administration of claims, construction

Legal	0.5	Citywide claims administration
Engineering	1.5	Citywide engineering investigation
Staffing	2.0	Total staffing
Rate	<u>\$200,000</u> /year	Average loaded staffing rate ⁴
Total	\$400,000 /year	
Customers	<u>58,502</u>	In Grand Rapids
	\$6.84 \$/yr/cust.	

Annual Cost Summary

1. Avoided Claims	\$1.98	
2. Avoided Treatment	\$90.06	
3. Actual MDNRE Penalties for SSOs	\$0.00	
4. Avoided Future Projects	\$782.35	
5. Administration	<u>\$6.84</u>	
TOTAL	\$881.23 \$/yr/cust.	
	\$73.44 /month/cust.	Monthly fee for not disconnecting

Notes:

- ¹ Sinking fund annual budget
- ² Customer numbers per 2020 Rate Study
- ³ Value for sewer maintenance and WRRF costs from 2020 rate study.
- ⁴ Estimated staff rate with benefits
- ⁵ Total cost per FDD amortized over 20 years with 2.5% interest rate

**CITY OF GRAND RAPIDS, MICHIGAN
APPENDIXES
ANNUAL WATER/SEWER RATE REVIEW**

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Resolution Approving Proposed Grand Rapids Water/Sewer Rates	B
Resolution Approving Proposed Partner Community Water/Sewer Rates	C
Partner Community Contributions	D



CITY OF GRAND RAPIDS AGENDA ACTION REQUEST

DATE: November 10, 2020

TO: Mark Washington, City Manager

COMMITTEE: Committee of the Whole
LIAISON: Mark Washington, City Manager

FROM: Jenessa B. Carter
Acting Utility Financial Officer

SUBJECT: 2020 Water/Sewer Rate Study - Introduction

A comprehensive review of operating and capital costs by community, in conjunction with customer base variation and usage, is performed annually for the purpose of recommending water and sewer rate adjustments for Grand Rapids and its partner communities. The City of Grand Rapids continues to adhere to its water and sewer rate-setting methodology first established in 1976-77. The methodology yields consistent performance in providing for the long-term financing needs of the Water Supply and Sewage Disposal Systems and assuring adequate debt service coverage pursuant to the Systems' master bond ordinance covenants. This year's review marks the 44th annual water/sewer rate study report.

The City's review of the Water Supply and Sewage Disposal Systems' performance has identified the revenue requirements for water and sewer for calendar year 2021. Water Supply System revenue requirements increased by \$280,352 or 0.62% more than revenues generated by existing rates and charges. Sewage Disposal System revenue requirements increased by \$4,495,051 or 7.92% more than revenues generated by existing rates and charges.

Both Systems experienced a decrease in the three-year average of billed volume, which is used to forecast the next calendar year's expected revenue. With expected consumption down, this causes upward pressure on rates. In addition, asset management continues to be the top priority for both Systems.

Expenses related to capital asset investments at the Lake Michigan Filtration Plant was a major driver for the Water System rate increase. Furthermore, the Water System is focusing on private lead service line replacements for the City of Grand Rapids residents in accordance with the Environmental Protection Agency (EPA) and The State of Michigan Environment, Great Lakes & Energy Division (EGLE) regulatory requirements.

The main basis of the rate increase for the Sewer System is the renovation of assets at the Wastewater Resource Recovery Facility (WRRF) and preloading costs related to the Biodigestion project. The WRRF Admin Building and Lab completed a significant overhaul in FY20. Additionally, project delays due to the COVID19 pandemic delayed the Biodigestion Projects from becoming operational in 2020. While the Sanitary Sewer Fund has used bond proceeds to fund the Biodigester projects, the System is paying debt service from reserves. In an effort to maintain the health of the Sewer Fund and be in compliance with the debt coverage required for the bond ordinance, it is necessary to preload the remaining \$45 Million spent to date in this rate study. The Biodigestion projects are expected to be completed in the Spring of 2021 and begin producing revenue related to renewable natural gas (RINs) in the Summer of 2021. On October 22, 2020, the Utility Advisory Board recommended proceeding with the preload of \$45 Million, understanding that it would contribute to increase 2021 rates.

Recommended rate adjustments incorporate provisions of the third amendment to the uniform service agreements with customer communities, which eliminates penalty fee credits from retail revenue requirements to fund the Individual Circuit Breaker (ICB) and the City and Customer Community Circuit Breaker (CCCCB). This amendment generated \$87,132 to support the ICB, the program aimed to assist retail customers requiring assistance in payment of their water/sewer bills. This amount will be supplemented with an additional appropriation of non-operating revenue. The third amendment also provides for a City and Customer Community Circuit Breaker, if sufficient funding is available, to limit each retail service area revenue requirement change to a level in line with the overall systems' initial average change. Adequate funds were available in both utility systems to apply the CCCCCB and limit the revenue requirement changes. Total City and Customer Community Circuit Breaker funds used in the 2020 rate study was \$609,928 in relief.

Attached are detailed schedules by customer community of revenue requirement changes and rate adjustment impacts to a typical domestic and commercial customer with the system average quarterly consumption.

The preliminary 2021 water and sewer rates have been made available to the Utility Advisory Board partners and other customer communities on November 6, 2020. All partner and customer communities have a thirty-day comment period following notification of the rates as provided in the water/sewer service agreements. Approval of the resolution for the 2021 Water and Sewer rates by the City Commission is scheduled for Tuesday, December 15, 2020.

The annual rate study along with explanatory materials will be filed with the City Clerk's Office no later than close of business on November 10, 2020 and are available for public review and comment. This is at least twenty (20) days prior to the City Commission's consideration of an approval resolution. Public notice will also be published in the newspaper, and the rate study and supplemental materials have been posted on the City's website at:

<https://www.grandrapidsmi.gov/Government/Departments/Water-System/Water-and-Sewer-Rate-Studies>.

Comments will be reported and considered as part of the FY2022 budget planning process.

CITY OF GRAND RAPIDS, MICHIGAN
2020 PRELIMINARY WATER/SEWER RATE STUDY
SUMMARY OF REVENUE REQUIREMENT CHANGES
FOR RATES EFFECTIVE JANUARY 1, 2021

	<u>WATER (1)</u>		<u>SEWER (1)</u>	
	<u>AMOUNT</u>	<u>PERCENT</u>	<u>AMOUNT</u>	<u>PERCENT</u>
GRAND RAPIDS	\$ (12,430)	-0.05%	\$ 2,607,909	6.75%
WALKER	42,708	1.21%	436,778	8.91%
KENTWOOD	54,306	1.21%	515,546	11.62%
CASCADE TWP	(167,913)	-4.51%	284,906	10.99%
GRAND RAPIDS TWP	29,795	1.20%	216,496	8.14%
TALLMADGE TWP	(25,517)	-11.25%	(17,120)	-3.66%
WRIGHT TWP	N/A	N/A	26,685	9.09%
EAST GRAND RAPIDS	30,955	3.81%	215,954	21.76%
ADA TWP	115,036	9.13%	129,273	9.42%
OTTAWA COUNTY	213,412	10.78%	NA	NA
GAINES TWP	N/A	N/A	37,343	16.70%
CALEDONIA TWP	N/A	N/A	41,281	27.03%
SYSTEM	\$ 280,352	0.62%	\$ 4,495,051	7.92%

(1) Change in revenue requirements based on revenues currently generated from rates, customer base and volumes reported in the preliminary rate study (Includes consideration for relief from CCCCB).

DISCLOSE RELIEF PROVIDED BY CITY & CUSTOMER COMMUNITY CIRCUIT BREAKER (CCCCB)

	<u>WATER</u>		<u>SEWER</u>	
	<u>AMOUNT</u>	<u>PERCENT</u>	<u>AMOUNT</u>	<u>PERCENT</u>
SYSTEM REVENUE REQUIREMENT	\$ 45,501,943	0.62%	\$ 61,242,290	7.92%
ADD: CCCCB RELIEF	260,317	0.58%	349,611	0.62%
SYSTEM CHANGE- WITHOUT RELIEF	<u>\$ 45,762,260</u>	<u>1.20%</u>	<u>\$ 61,591,901</u>	<u>8.54%</u>

CITY OF GRAND RAPIDS, MICHIGAN
2020 PRELIMINARY WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON DOMESTIC USERS
BY CUSTOMER COMMUNITY *
FOR RATES EFFECTIVE JANUARY 1, 2021

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2020</u>	<u>2021</u>	<u>DOLLARS</u>	<u>PERCENT</u>
GRAND RAPIDS				
WATER	\$ 87.24	\$ 86.86	\$ (0.38)	-0.44%
SEWER	122.20	128.90	6.70	5.48%
	<u>\$ 209.44</u>	<u>\$ 215.76</u>	<u>\$ 6.32</u>	3.02%
BASE RATIO	1.00	1.00		
WALKER				
WATER	\$ 86.68	\$ 87.38	\$ 0.70	0.81%
SEWER	138.99	150.75	11.76	8.46%
	<u>\$ 225.67</u>	<u>\$ 238.13</u>	<u>\$ 12.46</u>	5.52%
RATIO TO GR	1.08	1.10		
KENTWOOD				
WATER	\$ 89.18	\$ 89.67	\$ 0.49	0.55%
SEWER	76.44	84.17	7.73	10.11%
	<u>\$ 165.62</u>	<u>\$ 173.84</u>	<u>\$ 8.22</u>	4.96%
RATIO TO GR	0.79	0.81		
CASCADE TWP				
WATER	\$ 133.11	\$ 126.59	\$ (6.52)	-4.90%
SEWER	153.88	169.84	15.96	10.37%
	<u>\$ 286.99</u>	<u>\$ 296.43</u>	<u>\$ 9.44</u>	3.29%
RATIO TO GR	1.37	1.37		
GRAND RAPIDS TWP				
WATER	\$ 103.04	\$ 104.01	\$ 0.97	0.94%
SEWER	134.53	144.96	10.43	7.75%
	<u>\$ 237.57</u>	<u>\$ 248.97</u>	<u>\$ 11.40</u>	4.80%
RATIO TO GR	1.13	1.15		
TALLMADGE TWP				
WATER	\$ 90.98	\$ 76.86	\$ (14.12)	-15.52%
SEWER	256.82	247.07	(9.75)	-3.80%
	<u>\$ 347.80</u>	<u>\$ 323.93</u>	<u>\$ (23.87)</u>	-6.86%
RATIO TO GR	1.66	1.50		

* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE DOMESTIC CUSTOMER
QUARTERLY CONSUMPTION OF: WATER- 26.00 UNITS OR 19,448 GALLONS
SEWER - 19.00 UNITS OR 14,212 GALLONS
NO. OF MONTHS: 3

REU (RESIDENTIAL EQUIVALENT UNIT) CUSTOMER COMMUNITY- APPROXIMATE QUARTERLY BILL

WRIGHT TWP-				
SEWER (No. of REU 1.00)	<u>\$ 173.76</u>	<u>\$ 189.54</u>	<u>\$ 15.78</u>	9.08%

**CITY OF GRAND RAPIDS, MICHIGAN
2020 PRELIMINARY WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON COMMERCIAL USERS
BY CUSTOMER COMMUNITY
FOR RATES EFFECTIVE JANUARY 1, 2021**

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2020</u>	<u>2021</u>	<u>DOLLARS</u>	<u>PERCENT</u>
GRAND RAPIDS				
WATER	\$ 465.60	\$ 469.12	\$ 3.52	0.76%
SEWER	796.17	904.32	108.15	13.58%
	<u>\$ 1,261.77</u>	<u>\$ 1,373.44</u>	<u>\$ 111.67</u>	8.85%
BASE RATIO	1.00	1.00		
WALKER				
WATER	\$ 420.73	\$ 426.14	\$ 5.41	1.29%
SEWER	671.67	732.96	61.29	9.13%
	<u>\$ 1,092.40</u>	<u>\$ 1,159.10</u>	<u>\$ 66.70</u>	6.11%
RATIO TO GR	0.87	0.84		
KENTWOOD				
WATER	\$ 404.78	\$ 409.83	\$ 5.05	1.25%
SEWER	575.25	642.51	67.26	11.69%
	<u>\$ 980.03</u>	<u>\$ 1,052.34</u>	<u>\$ 72.31</u>	7.38%
RATIO TO GR	0.78	0.77		
CASCADE TWP				
WATER	\$ 608.31	\$ 580.52	\$ (27.79)	-4.57%
SEWER	719.49	798.09	78.60	10.92%
	<u>\$ 1,327.80</u>	<u>\$ 1,378.61</u>	<u>\$ 50.81</u>	3.83%
RATIO TO GR	1.05	1.00		
GRAND RAPIDS TWP				
WATER	\$ 485.87	\$ 491.76	\$ 5.89	1.21%
SEWER	635.82	688.17	52.35	8.23%
	<u>\$ 1,121.69</u>	<u>\$ 1,179.93</u>	<u>\$ 58.24</u>	5.19%
RATIO TO GR	0.89	0.86		
TALLMADGE TWP				
WATER	\$ 619.64	\$ 542.28	\$ (77.36)	-12.48%
SEWER	1,919.01	1,848.48	(70.53)	-3.68%
	<u>\$ 2,538.65</u>	<u>\$ 2,390.76</u>	<u>\$ (147.89)</u>	-5.83%
RATIO TO GR	2.01	1.74		

* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE COMMERCIAL CUSTOMER
 QUARTERLY CONSUMPTION OF : WATER- 203.00 UNITS OR 151,844 GALLONS
 SEWER - 198.00 UNITS OR 148,104 GALLONS
 NO. OF MONTHS: 3

REU (RESIDENTIAL EQUIVALENT UNIT) CUSTOMER COMMUNITY- APPROXIMATE QUARTERLY BILL

WRIGHT TWP				
SEWER (No. of REU 1.00)	<u>\$ 173.76</u>	<u>\$ 189.54</u>	<u>\$ 15.78</u>	9.08%

**CITY OF GRAND RAPIDS, MICHIGAN
2020 PRELIMINARY WATER/SEWER RATE STUDY
WATER & SEWER RATES FOR GRAND RAPIDS & RETAIL CUSTOMER COMMUNITIES
EFFECTIVE JANUARY 1, 2021**

WATER RATES

	<u>METER CODE</u>	<u>GRAND RAPIDS</u>	<u>WALKER</u>	<u>KENTWOOD</u>	<u>CASCADE</u>	<u>GR. RAPIDS TOWNSHIP</u>	<u>TALLMADGE TOWNSHIP</u>	<u>WRIGHT TOWNSHIP</u>
COMMODITY CHARGE (HCF)		\$ 2.06	\$ 1.78	\$ 1.65	\$ 2.32	\$ 2.01	\$ 2.64	NA
MONTHLY SERVICE CHARGE BY METER SIZE								
3/4" & Less	A	\$ 11.10	\$ 13.70	\$ 15.59	\$ 22.09	\$ 17.25	\$ 2.74	NA
1"	B	\$ 16.98	\$ 21.60	\$ 24.96	\$ 36.52	\$ 27.91	\$ 2.12	NA
1-1/4"	C	\$ 24.54	\$ 31.76	\$ 37.01	\$ 55.07	\$ 41.62	\$ 1.32	NA
1-1/2"	D	\$ 33.78	\$ 44.18	\$ 51.74	\$ 77.74	\$ 58.38	\$ 0.34	NA
2"	E	\$ 57.30	\$ 75.79	\$ 89.23	\$ 135.45	\$ 101.03	\$ (2.15)	NA
3"	F	\$ 124.50	\$ 166.10	\$ 196.34	\$ 300.34	\$ 222.90	\$ (9.26)	NA
4"	G	\$ 218.58	\$ 292.54	\$ 346.30	\$ 531.18	\$ 393.51	\$ (19.22)	NA
6" & Over	H	\$ 487.38	\$ 653.78	\$ 774.74	\$ 1,190.74	\$ 880.98	\$ (47.66)	NA

SEWER RATES

	<u>METER CODE</u>	<u>GRAND RAPIDS</u>	<u>WALKER</u>	<u>KENTWOOD</u>	<u>CASCADE</u>	<u>GR. RAPIDS TOWNSHIP</u>	<u>TALLMADGE TOWNSHIP</u>	<u>WRIGHT TOWNSHIP</u>
COMMODITY CHARGE (HCF)		\$ 4.16	\$ 2.88	\$ 3.05	\$ 3.07	\$ 2.67	\$ 8.63	NA
REU Charge (Monthly) *		NA	NA	NA	NA	NA	NA	\$ 63.18
MONTHLY SERVICE CHARGE BY METER SIZE								
3/4" & Less	A	\$ 16.62	\$ 32.01	\$ 8.74	\$ 37.17	\$ 31.41	\$ 27.70	NA
1"	B	\$ 26.88	\$ 54.24	\$ 12.87	\$ 63.41	\$ 53.17	\$ 46.58	NA
1-1/4"	C	\$ 40.07	\$ 82.82	\$ 18.18	\$ 97.15	\$ 81.15	\$ 70.85	NA
1-1/2"	D	\$ 56.19	\$ 117.75	\$ 24.67	\$ 138.39	\$ 115.35	\$ 100.51	NA
2"	E	\$ 97.23	\$ 206.67	\$ 41.19	\$ 243.36	\$ 202.40	\$ 176.02	NA
3"	F	\$ 214.47	\$ 460.71	\$ 88.39	\$ 543.27	\$ 451.11	\$ 391.75	NA
4"	G	\$ 378.61	\$ 816.37	\$ 154.47	\$ 963.14	\$ 799.30	\$ 693.78	NA
6" & Over	H	\$ 847.59	\$ 1,832.55	\$ 343.27	\$ 2,162.79	\$ 1,794.15	\$ 1,556.71	NA

* REU - Residential Equivalent Unit (Wright Township Only)

FIRE PROTECTION RATES- ALL GOVERNMENTAL UNITS

6"	H	\$ 20.32	10"	J	\$ 56.51
8"	I	\$ 36.07	12"	K	\$ 81.32

NOTE: Monthly defined as 1/12th of 365 days.

CITY OF GRAND RAPIDS, MICHIGAN
2020 PRELIMINARY WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON WHOLESALE CUSTOMER COMMUNITIES
EFFECTIVE JANUARY 1, 2021

	<u>2020</u>	<u>2021</u>	<u>PERCENTAGE CHANGE</u>
EAST GRAND RAPIDS			
WATER - SERVICE (MONTHLY)	\$17,849.00	\$15,299.00	-14.29%
- COMMODITY (100 CF)	\$1.07	\$1.18	10.28%
SEWER - SERVICE (MONTHLY)	\$2,213.00	\$1,918.00	-13.33%
- COMMODITY (MG)	\$2,068.00	\$2,538.00	22.73%
ADA TWP			
WATER - SERVICE	\$45,244.00	\$48,464.00	7.12%
- COMMODITY	\$1.22	\$1.35	10.66%
SEWER - SERVICE	\$47,747.00	\$41,740.00	-12.58%
- COMMODITY	\$2,721.00	\$3,407.00	25.21%
OTTAWA COUNTY			
WATER - SERVICE	\$0.00	\$416.00	N/A
- COMMODITY	\$1.14	\$1.26	10.53%
GAINES TWP			
SEWER - SERVICE	\$1,631.00	\$1,566.00	-3.99%
- COMMODITY	\$1,670.00	\$1,982.00	18.68%
CALEDONIA TWP			
SEWER - SERVICE	\$739.00	\$708.00	-4.19%
- COMMODITY	\$5,115.00	\$6,596.00	28.95%

NOTE: Monthly defined as 1/12th of 365 days.



Grand Rapids Water & Sewer Systems 44th Annual Preliminary Rate Study 2020



Historical Rate Changes

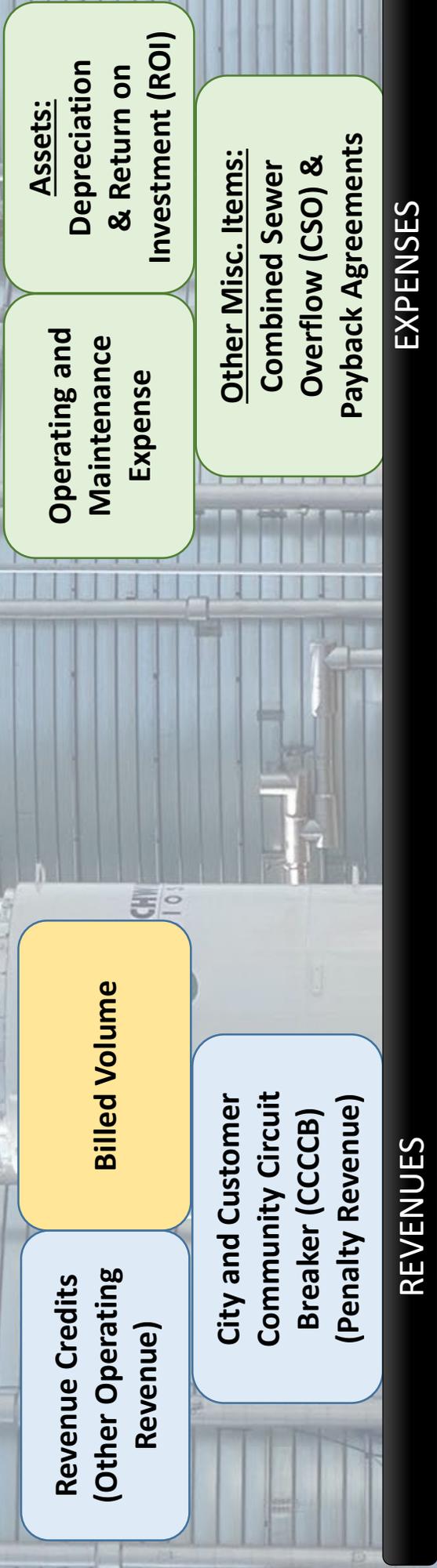
Rate Study Year	Water Supply System			Sewage Disposal System		
	Revenue Requirements	% change in RR over prev year	% gross rate incr (decr) **	Revenue Requirements	% change in RR over prev year	% gross rate incr (decr) **
2005	\$ 37,329,089	6.07%	5.94%	\$ 36,283,756	12.64%	12.76%
2006	39,629,260	6.16%	0.63%	38,301,107	5.56%	4.94%
2007	40,270,271	1.62%	4.95%	42,742,825	11.60%	15.73%
2008	42,017,680	4.34%	2.45%	47,092,925	10.18%	14.69%
2009	42,939,752	2.19%	9.89%	51,378,424	9.10%	14.04%
2010	41,200,107	-4.05%	-6.27%	49,673,390	-3.32%	-3.30%
2011	41,802,404	1.46%	5.15%	50,082,541	0.82%	2.89%
2012	39,247,442	-6.11%	-4.41%	48,183,681	-3.79%	-2.46%
2013	38,646,748	-1.53%	-4.30%	48,946,212	1.58%	2.46%
2014	40,055,985	3.65%	2.50%	49,962,043	2.08%	2.81%
2015	40,178,439	0.31%	1.00%	49,868,027	-0.19%	0.30%
2016	41,187,517	2.51%	3.63%	50,400,344	1.07%	0.36%
2017	42,828,972	3.99%	2.45%	52,319,981	3.81%	3.08%
2018	43,868,464	2.43%	2.71%	54,611,300	4.38%	3.28%
2019	45,752,997	4.30%	2.47%	56,969,417	4.32%	3.49%
2020*	45,501,943	-0.55%	0.62%	61,242,290	7.50%	7.92%
AVG	41,403,567	1.67%	1.84%	49,253,641	4.21%	5.19%

* Revenue Requirements per the 2020 Preliminary Rate Study.

** The percentage gross rate increase (decrease) differs from the annual percentage change in Revenue Requirements due to differences in usage volumes/customers/application of Circuit Breaker.



Building Blocks of the Revenue Requirement

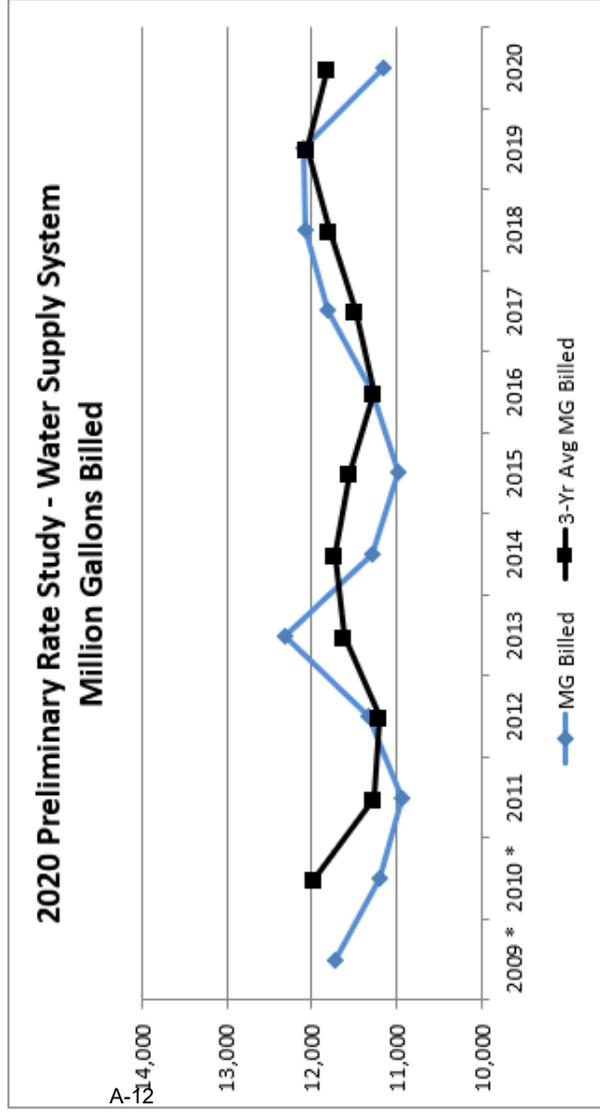




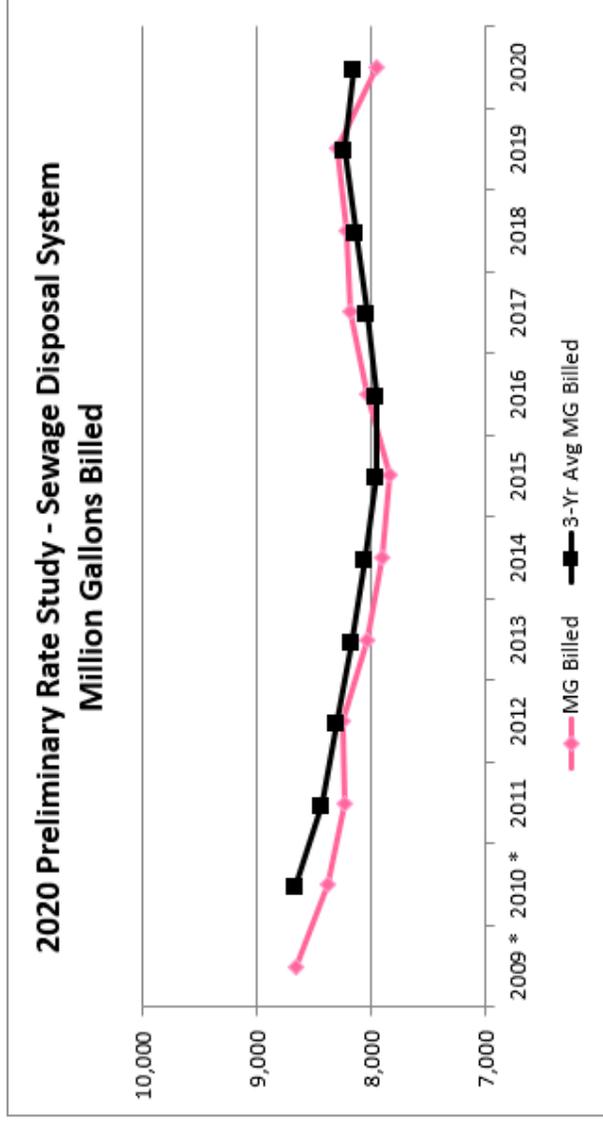
Billed Volume Average – Revenue Expectation

- 2020 Water volume down (7.89%) over 2019
- 3-Yr Avg Water volume **down** by (2.02%)

- 2020 Sewer Volume down (4.12%) over 2019
- 3-Yr Avg Sewer Volume **down** (0.84%)



* Volumes were restated from these Rate Studies to reflect actual billings without adjustment for accrued revenues.



* Volumes were restated from these Rate Studies to reflect actual billings without adjustment for accrued revenues.



Rate Impact Factors - Water

2020 Water Rate Study Rate Drivers	% Impact
Increases:	
Billed Volume	1.18%
Other Operating Revenue (permits, fees, etc.)	0.26%
Circuit Breaker Credit (penalty revenue)	0.23%
Assets – ROI and Depreciation (LMFP work)	0.18%
Decreases:	
O&M – Reduction in Construction in Progress Personnel, Supplies, Other Services down	(1.17%)
Integrated Connection Fees	(0.06%)
Proposed Rate Increase	0.62%



Rate Impact Factors - Sewer

2020 Sewer Rate Study Rate Drivers	% Impact
Increases:	
Assets – ROI and Depreciation (\$45M Biodigester Preload, Admin and Lab Renovation)	5.62%
O&M – Construction in Progress (DTE & Consumers) Ash Lagoon Remediation – EGLE mandate Biodigester Project Related CSX Soil Contamination Study WRRF Plant Work	1.91%
Billed Volume - 3-Yr Avg Sewer Volume down	0.39%
CSO Debt Service Requirement (GR Only)	0.38%
Decreases:	
Other Operating Revenue (permits, fees, etc.)	(0.13%)
Circuit Breaker Credit (penalty revenue)	(0.13%)
Connection Fees and Surcharge Revenues	(0.12%)
Proposed Rate Increase	7.92%



Biodigester Project Update

Project Budget	
Biodigester	\$56,806,303
RNG	14,842,449
Phosphorus	6,548,916
Consumers	1,074,840
Engineering	5,266,340
Total	\$84,538,848

*October 2019 Budget was \$85,327,083, resulting in a (\$788,235) budget reduction as bids finalized

What has not changed

- Renewable energy and sustainability benefits remain strong
- Less costly than alternatives and those alternatives did not produce renewable energy and sustainability benefits

October 2020 Updates

- Market conditions
 - RINs market price rebounds to \$1.42 per gallon
 - All bids finalized
 - Timing of project completion and generated revenue delayed due to COVID19. *Schedule of completion:
 - Tank 2 – November 2020
 - Tank 1 – January 2021
 - CW Tank (Tank 3) – February 2021
 - RNG – Fall 2020
 - Phosphorus Recovery – Fall 2020

Phasing of rates

- RS19 phased in \$30 Million for ~3.49% rate increase with an 8% increase estimated for CY21
- RS20 phases in \$45 Million ~5% rate increase
- Retains debt coverage around 1.40x (maintains bond ratings)
- Rates can be mitigated by proven operation cost control efforts
- Projected rate savings in future years from Biodigestion system revenue



Circuit Breaker Calculation

	Water/Sewer
City & Customer Community Circuit Breaker (CCCCCB): Penalty Revenue (87.5%)*	\$609,928
Individual Circuit Breaker (ICB):	
Penalty Revenue (12.5%)	87,132
Other Non-op Revenue	80,000
Total ICB	\$167,132
Total Circuit Breaker Funds	\$777,060
*CCCCCB funds used in 2020 Rate Study	\$609,928



Retail Communities: charges assessed directly to User based on water consumption (except for Wright Twp – REUs). Readiness to Serve (RTS) based on meter size and Commodity based on volume. City of GR maintains assets and bills users directly.

Wholesale Communities: charges assessed directly to Wholesale Community based on water consumption measured through a master meter at the point of service in the customer community. Readiness to Serve (RTS) based on non-integrated system requirements and Commodity based on volume. Customer community maintains assets and bills users directly.

	WATER (1)		SEWER (1)	
	AMOUNT	PERCENT	AMOUNT	PERCENT
RETAIL COMMUNITIES				
GRAND RAPIDS	\$ (12,430)	-0.05%	\$ 2,607,909	6.75%
WALKER	42,708	1.21%	436,778	8.91%
KENTWOOD	54,306	1.21%	515,546	11.62%
CASCADE TWP	(167,913)	-4.51%	284,906	10.99%
GRAND RAPIDS TWP	29,795	1.20%	216,496	8.14%
TALLMADGE TWP	(25,517)	-11.25%	(17,120)	-3.66%
WRIGHT TWP	N/A	N/A	26,685	9.09%
WHOLESALE COMMUNITIES				
EAST GRAND RAPIDS	30,955	3.81%	215,954	21.76%
ADA TWP	115,036	9.13%	129,273	9.42%
OTTAWA COUNTY	213,412	10.78%	NA	NA
GAINES TWP	N/A	N/A	37,343	16.70%
CALEDONIA TWP	N/A	N/A	41,281	27.03%
SYSTEM	\$ 280,352	0.62%	\$ 4,495,051	7.92%

(1) Change in revenue requirements based on revenues currently generated from rates, customer base and volumes reported in the preliminary rate study (Includes consideration for relief from CCCCCB).

DISCLOSE RELIEF PROVIDED BY CITY & CUSTOMER COMMUNITY CIRCUIT BREAKER (CCCCCB)

	WATER		SEWER	
	AMOUNT	PERCENT	AMOUNT	PERCENT
SYSTEM REVENUE REQUIREMENT	\$ 45,501,943	0.62%	\$ 61,242,290	7.92%
ADD: CCCCCB RELIEF	260,317	0.58%	349,611	0.62%
SYSTEM CHANGE- WITHOUT RELIEF	\$ 45,762,260	1.20%	\$ 61,591,901	8.54%



	APPROXIMATE QUARTERLY BILL		CHANGE	
	2020	2021	DOLLARS	PERCENT
GRAND RAPIDS				
WATER	\$ 87.24	\$ 86.86	\$ (0.38)	-0.44%
SEWER	122.20	128.90	6.70	5.48%
BASE RATIO	1.00	1.00	6.32	3.02%
WALKER				
WATER	\$ 86.68	\$ 87.38	\$ 0.70	0.81%
SEWER	138.99	150.75	11.76	8.46%
RATIO TO GR	1.08	1.10	12.46	5.52%
KENTWOOD				
WATER	\$ 89.18	\$ 89.67	\$ 0.49	0.55%
SEWER	76.44	84.17	7.73	10.11%
RATIO TO GR	1.08	1.10	8.22	4.96%
CASCADE TWP				
WATER	\$ 133.11	\$ 126.59	\$ (6.52)	-4.90%
SEWER	153.88	169.84	15.96	10.37%
RATIO TO GR	1.37	1.37	9.44	3.29%
GRAND RAPIDS TWP				
WATER	\$ 103.04	\$ 104.01	\$ 0.97	0.94%
SEWER	134.53	144.96	10.43	7.75%
RATIO TO GR	1.13	1.15	11.40	4.80%
TALLMADGE TWP				
WATER	\$ 90.98	\$ 76.86	\$ (14.12)	-15.52%
SEWER	256.82	247.07	(9.75)	-3.80%
RATIO TO GR	1.66	1.50	(23.87)	-6.86%

* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE DOMESTIC CUSTOMER QUARTERLY CONSUMPTION OF: WATER- 26.00 UNITS OR 19,448 GALLONS SEWER- 19.00 UNITS OR 14,212 GALLONS NO. OF MONTHS: 3



Rate Study Schedule

- **November 6th**: Prelim Rate Study available & 30-day review and comment period open for partner communities
- **November 10th**: Rate Study Presentation to City of Grand Rapids Commission & Initiation of 20 day Public Comment Period
- **November 19th**: Rate Study Presentation to Utility Advisory Board
- **Late November/Early December**: Meetings with Partner Communities
- **December 15th**: Approval of the 2021 Water and Sanitary Sewer System Rates by resolution by the City of Grand Rapids Commission

Rate studies available online at:

<https://www.grandrapidsmi.gov/Government/Departments/Water-System/Water-and-Sewer-Rate-Studies>

STATE OF MICHIGAN)
County of Kent
and County of Ottawa

ss. Maun Sultoy

Being duly sworn deposes and say he/she is Principal Clerk of



THE GRAND RAPIDS PRESS
DAILY EDITION

a newspaper published and circulated in the County of Kent and the County of Ottawa and otherwise qualified according to Supreme Court Rule; and that the annexed notice, taken from said paper, has been duly published in said paper on the following day(days) _____

November 10 A.D. 20 20

Sworn to and subscribed before me this 10th day of November 2020

Teasha R. Payne

TEASHA R. PAYNE
NOTARY PUBLIC, STATE OF MI
COUNTY OF MECOSTA
COMMISSION EXP FEB 24 2026
ACTING IN COUNTY OF Kent



CITY OF GRAND RAPIDS

WATER/SEWER RATES AND CHARGES FOR 2021 NOW AVAILABLE FOR PUBLIC COMMENT

The City of Grand Rapids has completed the "Preliminary Water/Sewer 2020 Rate Study" report, which is the basis for recommending water and sewer rates to become effective January 1, 2021, for all residential, commercial, and industrial users. That report, which also includes information on the Individual Circuit Breaker Program, the program aimed to help retail users requiring assistance in payment of their water/sewer bills, is available for public inspection in the City Clerk's Office, 2nd floor of City Hall, 300 Monroe NW, Grand Rapids, MI 49503 between 8:00 a.m. and 5:00 p.m. weekdays and can also be reviewed at: <https://www.grandrapidsmi.gov/Government/Departments/Water-System/Water-and-Sewer-Rate-Study>. Opportunity for public commentary runs through November 30th. You may submit comments to the City Clerk's Office or by sending an email to info@grcity.us.

The Grand Rapids City Commission is scheduled to consider approval on the rates on Tuesday, December 15, 2020.

9784765-01

**90429 Result: Adopted.
Mover: Jones. Supporter: Moody.**

WHEREAS:

1. The Water/Sewer rate studies have been undertaken and completed for the years 1976 through 2019; and
2. The 2020 Water/Sewer rate review has been completed using the same general methodology as the 1976 through 2019 Water/Sewer rate studies, as adjusted where appropriate for the uniform water and sanitary sewer service agreements; therefore

RESOLVED:

1. That pursuant to Section 2.33 of Chapter 26 of the City Code, the following City water rates, charges and fees will be as follows:

a. Front foot rate

Domestic	\$100
Commercial	\$145

b. Integrated water connection fees

i. Plan Review and Connection Fee (PRC)

1. Residential Users (three residential units or less)

Meter Size	PRC Fee
¾ inch or less	\$370
1 inch	\$380
1½ inch	\$380

2. All other Users (including residential of more than 3 units, commercial, industrial, governmental and religious)

Meter Size	PRC Fee
¾ inch or less	\$710
1 inch	\$935
1½ inch	\$1,250
2 inch	\$1,725
3 inch	\$2,150
4 inch	\$3,100

6 inch	\$4,380
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- ii. Meter Capacity Fee (MCC) (when water and sanitary sewer connections are made at the same time only one Meter Capacity Fee shall be charged)

Meter Size	MCC Fee
¾ inch or less	\$210
1 inch	\$250
1½ inch – T2	\$750
2 inch – T2	\$880
3 inch – T2	\$1,100
4 inch – T2	\$2,135
6 inch – T2	\$3,460
1½ inch – C2	\$1,200
2 inch – C2	\$1,385
3 inch – C2	\$1,755
4 inch – C2	\$3,050
6 inch – C2	\$5,265

- iii. Fire Protection Review Fee

All Fire Service Sizes	\$730
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- iv. Commercial Plan Assessment Fee (for instances where there is an established connection or property has been previously reviewed)

All Sizes	\$125
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- c. Commodity rates within the City of Grand Rapids

Domestic	\$2.06 per 100 cubic feet
Commercial	\$2.06 per 100 cubic feet
Industrial	\$2.06 per 100 cubic feet

d. Monthly service charge within the City of Grand Rapids

Size of Meter	Charge
¾ inch or less	\$11.10
1 inch	\$16.98
1¼ inch	\$24.54
1½ inch	\$33.78
2 inches	\$57.30
3 inches	\$124.50
4 inches	\$218.58
6 inches or larger	\$487.38

e. Fire protection charge

Size of Pipe	Monthly	Quarterly
6 inches	\$20.32	\$60.96
8 inches	\$36.07	\$108.21
10 inches	\$56.51	\$169.53
12 inches	\$81.32	\$243.96

f. Water service pipe costs

	50 ft.	60 ft.	66 ft.	80 ft.	100 ft.
	R.O.W.	R.O.W.	R.O.W.	R.O.W.	R.O.W.
Cost for 1 inch Water Service	\$3,050	\$3,500	\$3,750	\$4,350	\$5,200
Cost for 1½ inch Water Service	\$4,100	\$4,600	\$4,900	\$5,600	\$6,600
Cost for 2 inches Water Service	\$4,400	\$4,900	\$5,200	\$6,000	\$7,000

- g. Non-metered hydrant connection use fee (pool filling per connection) - \$100 refundable deposit + \$75/week
- h. Hydrant use permit (non-metered connection – residential customers) - \$50
- i. Hydrant use permit fee (metered connection) - \$300

- j. Metered hydrant connection use fee (per connection) - City of Grand Rapids account holder and Non-account holder - \$500 refundable deposit + \$25/week + metered volume (commodity charges at City of Grand Rapids rate)
- k. Hydrant connection assistance requests - \$100 service fee
- l. Hydrant flow test - \$200
- m. Tapping permits (all sizes) - \$375
- n. Meter service on/off requests (normal service hours 8am-7pm M-F)

Meter Size	Fee
All Sizes	\$55
Inspections/repair scheduled on & off request (may also need meter install)	\$70

- o. Meter replacement (non-system planned/scheduled replacement) (In addition to meter installation fee)

Meter Size	Fee
¾ inch or less	\$210
1 inch	\$250
T2 Omni Meter	Fee
1½ inch	\$750
2 inches	\$880
3 inches	\$1,100
4 inches or larger	At cost
C2 Omni Meter	Fee
1½ inch	\$1,200
2 inches	\$1,385
3 inches	\$1,755
4 inches or larger	At cost

- p. Final or actual meter reading - \$60
- q. Meter testing fee – paid by customer if meter is accurate, no charge if meter is faulty (In addition to Service On/Off Requests Fee)

Meter Size	Fee
¾ inch or less	\$150
1 inch	\$150
1½ inch	\$200
2 inches	\$350
3 inches	\$400
4 inches or larger	At cost

- r. Meter interface unit replacement - \$165
- s. Security deposit - \$500
- t. Street opening permit - \$300
- u. Water inspection permit (within City) - \$80
- v. Water inspection permit (outside City) - \$95
- w. Sanitary Service line inspection permit (within City) - \$80
- x. Sanitary Service line inspection permit (outside City) - \$95
- y. Storm Service line inspection permit (within City) - \$80
- z. Storm Service line inspection permit (outside City) - \$95
- aa. Footing drain lateral inspection permit (within City) - \$80
- bb. Footing drain lateral inspection permit (outside City) - \$95
- cc. Sewer lateral service demolition/cap off inspection fee (within City) - \$80
- dd. Sewer lateral service demolition/cap off inspection fee (outside City) - \$95
- ee. Plumbing service re-inspection fee - \$80
- ff. Cross connection re-inspection fee - \$75
- gg. Irrigation Service Cut/Cap Administration fee - \$65
- hh. Delinquent Commercial Backflow Test fee (per device) - \$25
- ii. Customer requested onsite service - \$100
- jj. Administrative/Research fee (review or processing of account for non-payment, returned payment, shut-off, posting of property, and/or backflow non-compliance. Documentation creation for account of location information, FOIA request may still be required) – \$55
- kk. Late payment penalty – 10% of net
- ll. Missed appointment fee - \$50
- mm. Unauthorized operation, tampering, or removal of any Water or Sanitary Sewer System owned or maintained valve, asset, infrastructure, or equipment (for example, but not limited to, valves, meters, meter reading equipment, hydrants, and curb stops and box) - \$500 plus double commodity rate for estimated volume and unbilled readiness to serve charges that may apply plus doubling of penalties for each subsequent infraction
- nn. Unauthorized use or illegal connection to any Water or Sanitary Sewer System owned pipe, property and/or private plumbing system served by the Water and/or Sanitary Sewer System - \$500 plus double commodity rate for estimated volume and any unbilled readiness to serve charges that may apply plus doubling of penalties for each subsequent infraction

- oo. Failure to return or return of damaged beyond repair / repairable hydrant connection equipment – Cost + 10%
- pp. Repair/replace damage to fire hydrant – Cost + 10%
- qq. Permit infractions/violations – \$100 plus double commodity rate for estimated volume and any unbilled readiness to serve charges that may apply plus doubling of penalties for each subsequent infraction
- rr. Returned check charge - \$30
- ss. Unauthorized service tap of Water or Sewer main - \$500 plus double commodity rate for estimated volume and any unbilled readiness to serve charges that may apply plus doubling of penalties for each subsequent infraction
- tt. Any cost recovery due to damaged caused or undue oversight of any location, account, or infrastructure of the Water and/or Sanitary Sewer System will be charged in accordance with cost recovery methodology for time and materials, including a 10% administrative charge for processing – Cost + 10%
- uu. Watermain oversizing rates

8 – 12 inches	\$27.76 per lineal foot
12 – 16 inches	\$28.00 per lineal foot
8 – 16 inches	\$55.76 per lineal foot

- vv. Circuit breaker allocation

Individual Circuit Breaker (ICB)	\$167,132
City and Customer Community Circuit Breaker (CCCCB)	\$609,928

2. That Pursuant to Section 2.94 of Chapter 27 of the City Code, the following City sewer rates, charges and fees will be as follows:

- a. Front foot rate

Domestic	\$108
Commercial	\$138

- b. Integrated sewer connection fees (based on water meter size)
 - i. Plan Review and Connection Fee (PRC)
 - 1. Residential Users (three residential units or less)

Meter Size	PRC Fee
¾ inch or less	\$370
1 inch	\$380
1½ inch	\$380

2. All other Users (including residential of more than 3 units, commercial, industrial, governmental and religious)

Meter Size	PRC Fee
¾ inch or less	\$710
1 inch	\$935
1½ inch	\$1,250
2 inch	\$1,725
3 inch	\$2,150
4 inch	\$3,100
6 inch	\$4,380

ii. Meter Capacity Fee (when water and sanitary sewer connections are made at the same time only one Meter Capacity Fee shall be charged)

Meter Size	MCC Fee
¾ inch or less	\$210
1 inch	\$250
1½ inch – T2	\$750
2 inch – T2	\$880
3 inch – T2	\$1,100
4 inch – T2	\$2,135
6 inch – T2	\$3,460
1½ inch – C2	\$1,200
2 inch – C2	\$1,385
3 inch – C2	\$1,755
4 inch – C2	\$3,050
6 inch – C2	\$5,265

iii. Commercial Plan Assessment Fee (for instances where there is an established connection or property has been previously reviewed)

All Sizes	\$125
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c. Commodity rates within the City of Grand Rapids

Domestic	\$4.16 per 100 cubic feet
Commercial	\$4.16 per 100 cubic feet
Industrial	\$4.16 per 100 cubic feet

d. Monthly service charge within the City of Grand Rapids

Size of Meter	Charge
¾ inch or less	\$16.62
1 inch	\$26.88
1¼ inch	\$40.07
1½ inch	\$56.19
2 inches	\$97.23
3 inches	\$214.47
4 inches	\$378.61
6 inches or larger	\$847.59

e. Wastewater surcharges for industrial customers

BOD	\$0.362
TSS	\$0.569
Phos	\$3.488
NH3	\$0.356

f. Concentrated waste credit

BOD	\$0.118
Phos	\$6.005

NH3	\$0.043
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- g. Septage portable toilet waste
 - i. Annual discharge authorization permit fee - \$500
 - ii. \$100 per 1,000 gallons discharged
- h. Hauled Concentrated Waste
 - i. Annual discharge authorization permit fee for permitted significant industrial within the service area - \$1,000
 - ii. Annual discharge authorization permit fee for customers outside the service areas - \$2,000
 - iii. Waste stream characterization and compatibility evaluation - \$1,000 each
 - iv. \$45 per 1,000 gallons discharged for customers within the service area
 - v. \$60 per 1,000 gallons discharged for customers outside the service area
- i. Pumped or Hauled Municipal EQ Biosolids
 - i. \$1,500 annual discharge authorization permit fee
 - ii. \$1,000 each for Biosolids characterization and compatibility evaluation
 - iii. \$80 per dry ton discharged for customers within the service area
 - iv. \$100 per dry ton discharged for customers outside the service area
- j. Significant industrial user discharge permit fee - \$400 plus the surcharge analytical fees
- k. Surcharge analytical fees

Metals	\$5/each
TSS	\$7/each
BOD	\$12/each
COD	\$12/each
Total Phosphate	\$16/each
pH	\$5/each
EPA 624.1	\$50/each
EPA 625.2	\$125/each
BTEX/MTBE	\$35/each
Sulfide	\$19/each
Oil and Grease	\$20/each
Total Cyanide	\$18/each
Hexavalent Chromium	\$20/each

Fecal Coliform	\$20/each
Mercury (EPA 245.1 or 245.2)	\$15/each
Ammonia	\$12/each
Pesticides and PCBS EPA 608	\$90/each
PCB's	\$45/each
Phenols	\$18/each
PFAS EPA 537 Modified (samples, duplicate and blank)	\$245/each
PFAS by LCMSMS (samples, duplicate and blank)	\$285/each
Labor	\$68.09/hour
Sampler	\$35/day
Vehicle	\$4.06/hour

i. Sewer lateral charges

	50 ft.	60 ft.	66 ft.	80 ft.	100 ft.
	R.O.W.	R.O.W.	R.O.W.	R.O.W.	R.O.W.
Cost for 6 inch lateral	\$3,050	\$3,600	\$3,950	\$4,700	\$5,800

m. Sewer oversizing rates

Description	Amount (per lineal foot)
8 – 10 inches	\$4.77
8 – 12 inches	\$9.98
8 – 15 inches	\$18.95
10 – 12 inches	\$5.21
10 – 15 inches	\$14.18
12 – 15 inches	\$8.97

n. Footing drain disconnect opt out charge - \$73.44 per customer per month

3. That the above Water and Sewer rates, charges and fees are approved and shall be effective January 1, 2021.

I hereby certify that the foregoing is a true transcript of the action of the City Commission of the City of Grand Rapids, Michigan, in public session held December 15, 2020.

A handwritten signature in cursive script that reads "Joel H. Hondorp".

Joel H. Hondorp, City Clerk

90430 Result: Adopted.

Mover: Jones. Supporter: Moody.

WHEREAS:

1. The Water/Sewer rate studies have been undertaken and completed for the years 1976 through 2019; and
2. The 2020 Water/Sewer Rate Review has been completed using the same general methodology as the 1976 through 2019 Water/Sewer Rate Studies, as adjusted where appropriate for the uniform water and sanitary sewer service agreements; therefore

RESOLVED:

1. That the attached water and sewer rates are approved for retail and wholesale partner communities of the City's Water Supply System and Sanitary Sewer System and shall be effective January 1, 2021; and
2. That the Interim Chief Financial Officer is directed to notify the contractual water and sewer service customers in writing of the water and sewer rates, and the Mayor and City Clerk are authorized to take any action as may be required to evidence the new water and sewer rates.

I hereby certify that the foregoing is a true transcript of the action of the City Commission of the City of Grand Rapids, Michigan, in public session held December 15, 2020.



Joel H. Hondorp, City Clerk

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: January 1, 2021

TO: Molly J. Clarin
Chief Financial Officer

FROM: Jenessa B. Carter
Acting Utility Financial Officer

SUBJECT: **2020 WATER/SEWER RATES STUDY PARTNER COMMUNITY CONTRIBUTIONS**

The following community has elected to make a contribution to reduce their water or sewer 2020 revenue requirement. The below amounts are applied in Task 27.

<u>Community</u>	<u>Utility</u>	<u>Check Number</u>	<u>Amount</u>
City of Walker	Sewer	167839	\$90,870.67

JBC:jbc